

## **FIGURE 2-2. AIR CARRIER ASSESSMENT TOOL (ACAT).**

### **INTRODUCTION**

The ACAT is an automated tool that provides online features to assist in completion, as well as calculating the information included on the ACAT Results sheet. The ACAT is a matrix designed to analyze and assess the elements of an air carrier's systems using a series of risk indicators. The ACAT provides a method to determine an assessment value that is applied to the Element Performance Inspection (EPI) Frequency Baseline for each element of surveillance contained in the Comprehensive Surveillance Plan (CSP).

The ACAT is structured into two major sections: Airworthiness and Operations. Each ACAT section includes a Results sheet designed to compile the results from the ACAT and provide the Principal Inspectors (PI) with Assessment Values for each element.

### **ACAT DESCRIPTION**

The ACAT is structured as a matrix, with rows, columns, and intersecting cells. The rows associated with both sections of the ACAT include the air carrier system elements to be assessed for each specialty. Together there are a total of 105 elements of surveillance associated with the Airworthiness and Operations sections of the ACAT. There are thirty-one risk indicators that make up the Airworthiness ACAT and twenty-nine risk indicators that make up the Operations ACAT. A risk indicator is a safety and/or performance related data or information group that reflects an area of potential risk.

An air carrier complexity factor considers the size and complexity of the carrier to determine the baseline number of EPI that the ACAT generates in the CSP. Current ATOS carriers will be grouped into one of three categories. Each of these categories will have its own weighting factor to determine the number of EPI to be accomplished within the CSP.

The ACAT also includes a Results sheet. The purpose of the ACAT Results sheet is to compile the results for all four assessment subject areas (i.e., Operational Stability, Air Carrier Dynamics, Performance History, and Environmental Criticality) for each surveillance element.

### **ACAT INSTRUCTIONS**

PI will complete all appropriate indicator-to-element assessments on the ACAT. This can be done at one sitting or may be an iterative process that requires review of previously gathered data. PI/CSI will complete their sections of the ACAT by marking a check in those matrix cells where there is a concern that a real or potential problem exists which could contribute to a failure in the element, sub-system, or system.

Each ACAT - Airworthiness and Operations - includes a Results sheet at the end. The ACAT Results sheet is a three-part matrix. One part of the matrix is designed to compile the individual element Assessment Actual Total made on the ACAT by category (System Stability and Operational Risks) and by subject area (Operational Stability, Air Carrier Dynamics, Performance History, and Environmental Criticality) for each element row. One part of the matrix is designed to capture the Percentage for each element into the appropriate Assessment Value category, which automatically assigns an Assessment Value of -1, 0, +1, or +2. One part of the matrix captures a Weighted Percentage per element.

There are four assessment actual totals per element (one for each of the four indicator subject areas). Once all of the line items on the ACAT have been assessed, a total will be automatically computed for each of the risk indicators for each surveillance element and will appear in the appropriate *Assessment Actual* column. For example, to compute the Performance History (PH) total for the (1.1.1) Aircraft Airworthiness Requirements element, the total number of actual check marks made across the element row for each of the Performance History risk indicators on the ACAT will be automatically computed. The number will appear in the *Assessment Actual PH* column on the ACAT Results sheet.

The *Assessment Actual Total* column is computed by adding the numbers in the four *Assessment Actual* (OS, CD, PH, and EC) columns for an element row (e.g., 1.1.1 Aircraft Airworthiness Requirements). The total for each element row is automatically computed in the *Assessment Actual Total* column. The *Percentage* column is computed by dividing the *Assessment Actual Total* column by the *Assessment Actual Total Possible* column for each element, then multiplying the result by 100, and rounding the product to the nearest whole number to formulate the percentage.

Once the *Percentage* column for all element rows has been computed and displayed on the Results sheet, the *Assessment Value* column is also displayed. The *Assessment Value* column is determined by the percentage computed in the *Percentage* column. Based on the range into which the percentage falls, the corresponding value factor will appear in the *Assessment Value* column:

0-5%	=	-1
6-10%	=	0
11-15%	=	+1
16%+	=	+2

For example, if the percentage is fourteen (14) percent, the *Assessment Value* column will automatically display a +1 assessment value.

The Assessment Value for each element is automatically transferred to the air carrier's CSP-EPI. The Assessment Value is used to reduce, maintain, increase, or heighten the EPI Frequency Baseline for each surveillance element in the plan.

The *Weighted Percentage* column is automatically computed for each element by multiplying the *Criticality Weight* column by the *Percentage* column. An average percentage for each sub-system row is also computed and displayed in the *Weighted Percentage* column. This sub-system weighted percentage is used to determine the sub-system *SAI Priority*, which is automatically placed on the CSP-SAI. The weighted percentage is converted from a percentage to a numeric priority of 1 through 10; 1 being the sub-system with the greatest level of concern and 10 (for Airworthiness) and 7 (for Operations) the sub-system with the least level of concern.

After the *Weighted Percentage* column is computed for each element, an average will be computed for all elements and displayed in the appropriate Total Airworthiness Result or the Total Operations Result cell. Over time, the total Weighted Percentage for Airworthiness and Operations compiled through the ACAT will provide the CMT with trend data that can be used to further enhance the assessment and planning processes. Once the ACAT is finalized, the PI/CSI will save it as "Final" in automation. Detailed descriptions and instructions for the ACAT, the ACAT Results sheet, and the risk indicator criteria are presented on the following pages.

ITEM	<u>ACAT</u>	DESCRIPTION/INSTRUCTIONS
<b>CRITICALITY BASELINE</b>		<p>This column identifies the criticality baseline for the elements as identified in the CSP. The criticality baseline will differ for each element. It will be categorized as High, Medium, or Low.</p> <ul style="list-style-type: none"> <li>• High = A high likelihood that a failure in this element could lead to an unsafe condition.</li> <li>• Medium = A moderate likelihood that a failure in this element could lead to an unsafe condition.</li> <li>• Low = A low likelihood that a failure in this element could lead to an unsafe condition.</li> </ul>
<b>AIRWORTHINESS OR OPERATIONS ELEMENTS</b>		<p>This column identifies the air carrier elements for the two specialties, Airworthiness (Maintenance and Avionics) and Operations (Operations and Cabin Safety), for the air carrier systems and sub-systems. The elements vary by specialty.</p>
<b>SYSTEM STABILITY CATEGORY</b>		<p>The System Stability category addresses the state of balanced constancy and safety that results when an air carrier effectively manages both their organization and their environment; those that they control directly and those over which they have no direct control.</p>
<b>OPERATIONAL STABILITY SUBJECT AREA</b>		<p>The Operational Stability subject area addresses those aspects of the air carrier organization and environment over which the air carrier has no direct control and that, when managed effectively, could enhance system stability and safety. There are seven Operational Stability risk indicators and related columns.</p>

ITEM	<u>ACAT</u>	DESCRIPTION/INSTRUCTIONS
<p><b>OPERATIONAL STABILITY RISK INDICATORS:</b></p> <ul style="list-style-type: none"> <li>• SPAS Management/Economic Indicators</li> <li>• Change in Air Carrier Management</li> <li>• Turnover in Personnel</li> <li>• Reduction in Workforce/Layoffs/Buy-Outs</li> <li>• Rapid Expansion/Growth</li> <li>• Merger or Takeover</li> <li>• Labor-Management Relations</li> </ul>		<p>Read, review, and analyze the criteria associated with each risk indicator. For each risk indicator, determine if the criteria apply to each element. Make a check in those matrix cells where there is a concern that a real or potential problem exists that could contribute to a failure in the element. Where the assessment does not indicate a real or potential problem exists, leave the cell blank.</p>
<p><b>AIR CARRIER DYNAMICS SUBJECT AREA</b></p>		<p>The Air Carrier Dynamics subject area addresses those aspects of the air carrier's organization and environment that the air carrier directly controls and that could be used to enhance system stability and safety. There are ten Air Carrier Dynamics risk indicators and related columns.</p>
<p><b>AIR CARRIER DYNAMICS RISK INDICATORS:</b></p> <ul style="list-style-type: none"> <li>• New/Major Changes to Program</li> <li>• Safety System</li> <li>• Internal Evaluation Program</li> <li>• Best Practices</li> <li>• Resource Management Training</li> <li>• Risk Management</li> <li>• Cooperative Relationship with FAA</li> <li>• Human Factors</li> </ul>		<p>Read, review, and analyze the criteria associated with each risk indicator. For each risk indicator, determine if the criteria apply to each element. Make a check in those matrix cells where there is a concern that a real or potential problem exists that could contribute to a failure in the element. Where the assessment does not indicate a real or potential problem exists, leave the cell blank.</p>
<p><b><u>Airworthiness Only:</u></b></p> <ul style="list-style-type: none"> <li>• Inspection Department/System</li> <li>• CAS System</li> </ul>		
<p><b>OPERATIONAL RISKS CATEGORY</b></p>		<p>The Operational Risks category addresses the operational risks that affect the maintenance and operations of the air carrier.</p>
<p><b>PERFORMANCE HISTORY SUBJECT AREA</b></p>		<p>The Performance History subject area addresses the results or outcomes of air carrier operations over time. There are seven Performance History risk indicators.</p>

ITEM	<u>ACAT</u>	DESCRIPTION/INSTRUCTIONS
<p><b>PERFORMANCE HISTORY RISK INDICATORS:</b></p> <ul style="list-style-type: none"> <li>• Enforcement Actions</li> <li>• Accidents/Incidents/ Occurrences</li> <li>• DoD/RASIP</li> <li>• Self-Disclosures</li> <li>• Safety Hotline/Complaints</li> <li>• New Entrant Air Carrier</li> <li>• SPAS Trend Indicators</li> </ul>		<p>Read, review, and analyze the criteria associated with each risk indicator. For each risk indicator, determine if the criteria apply to each element. Make a check in those matrix cells where there is a concern that a real or potential problem exists that could contribute to a failure in the element. Where the assessment does not indicate a real or potential problem exists, leave the cell blank.</p>
<p><b>ENVIRONMENTAL CRITICALITY SUBJECT AREA</b></p>		<p>The Environmental Criticality subject area address those aspects of the air carrier's surroundings that could lead to or trigger a failure in one of their systems, sub-systems, or elements and potentially create an unsafe condition. There are seven Environmental Criticality risk indicators.</p>
<p><b>ENVIRONMENTAL CRITICALITY RISK INDICATORS:</b></p> <ul style="list-style-type: none"> <li>• Age of Fleet</li> <li>• Varied Fleet Mix</li> <li>• Complexity of Aircraft</li> <li>• Outsource (M, T, GH)</li> <li>• Seasonal Operations</li> <li>• Relocation/Closing of Facilities</li> <li>• Lease Arrangement</li> </ul>		<p>Read, review, and analyze the criteria associated with each risk indicator. For each risk indicator, determine if the criteria apply to each element. Make a check in those matrix cells where there is a concern that a real or potential problem exists that could contribute to a failure in the element. Where the assessment does not indicate a real or potential problem exists, leave the cell blank.</p>

<b><u>ACAT RESULTS SHEET</u></b>	
<b>ITEM</b>	<b>DESCRIPTION/INSTRUCTIONS</b>
<b>AIR CARRIER</b>	The name of the air carrier for which the assessment is being conducted.
<b>ASSESSMENT YEAR</b>	The four-digit fiscal year in which the assessment is being conducted.
<b>PI(s)/CSI</b>	The name of the PI(s)/CSI.
<b>CHDO/CMO</b>	The name of the CHDO/CMO.
<b>AIR CARRIER DESIGNATOR</b>	The Air Carrier Designator.
<b>AIRWORTHINESS OR OPERATIONS ELEMENTS</b>	This column identifies the air carrier surveillance elements for Airworthiness and Operations that support the air carrier systems or sub-systems.
<b>ASSESSMENT ACTUAL: OS, CD, PH, EC, TOTAL, TOTAL POSSIBLE</b>	The total number of check marks for each assessment actual subject area (OS, CD, PH, and EC) for each element row (e.g., 1.1.1 Aircraft Airworthiness Requirements) will be computed and displayed in the corresponding ASSESSMENT ACTUAL column (OS, CD, PH, and EC). Once they all have been computed, the ASSESSMENT ACTUAL TOTAL column will sum the ASSESSMENT ACTUAL column and display the ASSESSMENT ACTUAL TOTAL column.
<b>PERCENTAGE</b>	The ASSESSMENT ACTUAL TOTAL column will be divided by the ASSESSMENT ACTUAL TOTAL Possible column for each element. The result will be multiplied by 100, rounded to the nearest whole number, and the result will be displayed in the PERCENTAGE column.
<b>ASSESSMENT VALUE:</b> • 0-5% = -1 • 6-10% = 0 • 11-15% = +1 • 16%+ = +2	For each element row, the PERCENTAGE column will indicate the corresponding factor, which will be displayed in the ASSESSMENT VALUE column. For example, if the Percentage is four (4%), which would fall into the 0-5% range, the value displayed would be -1.
<b>CRITICALITY WEIGHT</b>	The CRITICALITY WEIGHT column corresponds to the CRITICALITY BASELINE column on the CSP. The criticality weight is used in computing the WEIGHTED PERCENTAGE column and provides representation of the criticality for each element into the criticality weight. The criticality weight may differ for each

<b><u>ACAT RESULTS SHEET</u></b>	
<b>ITEM</b>	<b>DESCRIPTION/INSTRUCTIONS</b>
	<p>element. It will be categorized as 3, 2, or 1:</p> <ul style="list-style-type: none"> <li>• 3 = High Criticality Baseline</li> <li>• 2 = Medium Criticality Baseline</li> <li>• 1 = Low Criticality Baseline</li> </ul>
<b>WEIGHTED PERCENTAGE</b>	<p>The WEIGHTED PERCENTAGE column is computed by multiplying the PERCENTAGE column by the CRITICALITY WEIGHT column. When this process is complete for all elements, the average of all the WEIGHTED PERCENTAGE element rows will be displayed in the TOTAL AIRWORTHINESS RESULT cell or TOTAL OPERATIONS RESULT cell, as appropriate.</p>
<b>PI/CSI APPROVAL</b>	<p>The PI(s)/ CSI who completed the ACAT will indicate their approval that the ACAT is complete.</p>
<b>DATE</b>	<p>The date that the PI(s)/ CSI saved the ACAT as "Final."</p>
<b>NOTES</b>	<p>Any narrative notes about the assessment provided by the PI(s)/CSI who completed the ACAT should be entered here.</p>

## ACAT RISK INDICATOR CRITERIA

The ACAT is designed so that each surveillance element is assessed by multiple indicators. The indicators are divided into two major categories - System Stability and Operational Risks - designed to reflect the fact that air carrier systems are impacted by both internal and external events. Each major category is further sub-divided into two subject areas; these subject areas are designed to focus the indicators on those operational, performance, and environmental risks most likely to impact an air carrier's systems. The System Stability category is divided into Operational Stability and Air Carrier Dynamics. The Operational Risks category is divided into Performance History and Environmental Criticality. The complete set of indicators is designed to provide the Principal Inspector with the means to assess the elements and determine the system-based surveillance requirements for an air carrier's annual CSP. The definitions and criteria for each of the thirty-one indicators are provided on the following pages.

### Summary of Risk Indicators

<b>SYSTEM STABILITY</b>	<b>OPERATIONAL RISKS</b>
<b>OPERATIONAL STABILITY</b>	<b>PERFORMANCE HISTORY</b>
SPAS Indicators	Enforcement Actions
Change in Air Carrier Management	Accidents/Incidents/Occurrences
Turnover in Personnel	DoD/RASIP
Reduction in Workforce/Layoffs/Buy-outs	Self-Disclosures
Rapid Expansion/Growth	Safety Hotline/Complaints
Merger or Takeover	New Entrant Carrier
Labor-Management Relations	SPAS Trend Indicators
<b>AIR CARRIER DYNAMICS</b>	<b>ENVIRONMENTAL CRITICALITY</b>
Inspection Department/System (A/W)	Age of Fleet
New/Major Changes to Program	Varied Fleet Mix and Mixed Configuration
CAS System (A/W)	Complexity of Aircraft
Safety System	Outsourcing
Internal Evaluation Program	Seasonal Operations
Best Practices	Relocation/Closing of Facilities
Resource Management Training	Lease Arrangements
Risk Management	
Cooperative Relationship with FAA	
Human Factors	



## SYSTEM STABILITY/OPERATIONAL STABILITY RISK INDICATORS

### SPAS Management/Economic Indicator(s)

*The SPAS Management Indicator(s), and SPAS Economic Indicator(s), provide subject-specific indications of the current system and operational stability of the air carrier. The SPAS Management Indicator(s) incorporate the SPAS performance measures related to changes in the following key management personnel: Chief Executive Officer, Chief Inspector, Chief Pilot, Director of Maintenance, Director of Operations, General Manager, Principal Avionics Inspector, Principal Maintenance Inspector, and Principal Operations Inspector. This indicator is designed to measure the stability of air carrier management due to changes in designated personnel for both small and large air carriers. VIS data is used to track changes in these nine personnel categories for each air carrier. The SPAS Economic Indicator(s) provides a measure of the current economic state of the air carrier based on the credit information compiled through TRW's Business Credit Services. This indicator is designed to forecast the likelihood that an operator's business will enter a period of increased economic and financial risk within the next six months. SPAS Indicator data is available in different formats. It can be used to drill down to a detailed level, is available for five previous years, and can be used to compare the air carrier to its own records or to the average performance of the entire industry segment in which it is categorized. Analysis of this data can provide insight into the air carrier's current safety and economic profile, as well as to detect developing trends; analysis over a period of time may also provide an indicator of the root causes of these trends. The results of this type of analysis can be used to target surveillance and to reduce the potential for failure in air carrier systems, sub-systems, and/or elements. In rating the air carrier elements based on SPAS Indicator(s) data, consider the following:*

- A large percentage of change, whether favorable or unfavorable, over a period may indicate management, economic, and/or operational changes that could affect the stability of the air carrier's systems and safety profile. Where necessary, drill down to specific events and review the underlying data.
- Determine the potential impact of SPAS Indicators on the air carrier's system and operational stability with consideration to the size of the air carrier. The impact of SPAS Indicators on small air carriers may be greater than on large air carriers, all other things being equal. Key management personnel at a small air carrier may play multiple roles. The loss of this type of management capability could be significant. Economic and/or financial changes such as changes in their external credit rating due to flux in the marketplace, loss of passenger volume and related revenues could be significant to a small air carrier. In both instances a large air carrier may have additional resources that can be relied upon.
- Determine the potential impact of SPAS Indicators on new air carriers versus experienced air carriers. The impact of SPAS Indicators on new air carriers may be greater than on experienced air carriers, all other things being equal. Key management personnel are considered critical to ensuring the success of the new entrant's initial operating plan. The Office of the Secretary of Transportation issues its economic authority with consideration given to the strength of the new entrant air carrier's management team. High management turnover could be significant to a new entrant, whereas an established air carrier may have additional levels of key management and be better prepared to sustain the loss. Regardless of number of years an air carrier has been in operations, the changes reflected in the SPAS Indicators should be considered in light of their potential impact on system and operational stability.

- Consider the impact management, personnel, economic, or operating changes may have on the related SPAS Indicators. Consider the impact that changes in the industry could have on the air carrier systems and operations, particularly in the period immediately following the change.

### Change in Air Carrier Management

*Changes in areas other than key management personnel can also have a significant impact—positive or negative—on an air carrier’s system and operational stability. This indicator is intended to focus on changes in air carrier management not captured through the SPAS Management/Economic Indicator, such as changes in air carrier middle management personnel responsible for managing critical departments of the organization. Consultation with the air carrier or use of industry data may be helpful in identifying such changes and assessing the impact of their departure. In rating the air carrier surveillance elements based on changes in air carrier management data, consider the following:*

- A change in air carrier middle management may also have a greater impact on small air carriers than large air carriers, all other things being equal. Middle management at a small air carrier may be primarily responsible for the quality of the air carrier’s systems, and any major changes could be significant. A large air carrier may have additional resources that can be relied upon when air carrier middle management personnel change. Regardless of size, the significance of the change in air carrier management should be assessed to determine the potential impact on the air carrier’s system and operational stability.
- The air carrier management may include personnel in the air carrier’s safety and/or quality assurance, engineering, operations, and maintenance departments. Changes in middle management in any of the air carrier’s major lines of business should be considered; changes in administrative management should also be considered though they may not have the same level of impact.
- In general, internal selections of new management personnel are less disruptive than external hires. However, if the air carrier has a history of safety problems, external knowledge and experience may provide the organization with an opportunity to build a stronger safety system. Similarly, civil experience may be preferable to a military aviation background in new management personnel since knowledge of the Federal Aviation Regulations and experience interfacing with the FAA are beneficial.
- If the reason behind the change(s) is performance based, the change may be an improvement. On the other hand, downsizing, streamlining, and reorganizations can reduce the amount of safety oversight within the air carrier. New programs may alter existing lines of authority and supervision. Ownership changes may result in replacement of key departmental managers.
- Consider the affect on overall air carrier philosophy or operational priorities. Cost-cutting and greater “bottom line” pressure can undermine or dilute an air carrier’s quality orientation and may lead to reduced emphasis on safety. Each change should be considered in light of the systems that it could affect.

### Turnover in Personnel

*A loss of personnel can dramatically increase the potential for failure in one of the air carrier's systems, sub-systems, or elements. The loss may be contained in and affect only the maintenance or operations organizations, or there may be a significant loss of key personnel throughout the entire organization. Maintenance personnel include staff members directly involved in ensuring the quality of the maintenance organization. Operations personnel include staff members directly involved in ensuring the quality of air carrier operations, including flight crewmembers, flight attendants, dispatch, and training staff. Consultation with the air carrier may be helpful in identifying these people and assessing the effect of their departure. Consider these issues when assessing this indicator:*

- Turnover in air carrier personnel may have a greater impact on small air carriers than large air carriers, all things being equal. A loss of personnel responsible for ensuring the day-to-day operations or maintenance quality of the air carrier's systems at a small air carrier could be significant. A large air carrier may have additional resources that can be relied upon when air carrier personnel change. Regardless of size, the significance of the change in air carrier personnel should be assessed to determine the potential impact on the air carrier's system and operational stability.
- A high turnover in personnel, across the air carrier, or within the maintenance or operations organizations, should always raise a concern. Consider the impact—positive or negative—that loss of personnel due to downsizing, streamlining, attrition, the end of a program, and/or reorganizing, has on quality and safety.
- Depending on circumstances, internal selections of new personnel are less problematic than external hires. If, however, the air carrier has a history of safety problems, external knowledge and experience may provide the organization with an opportunity to build a stronger safety system. Similarly, civil experience may be preferable to a military aviation background in new management personnel since knowledge of the Federal Aviation Regulations and experience interfacing with the FAA are beneficial.
- Consider whether or not new or remaining staff are being retrained or cross-trained to perform the new or expanded maintenance or operations functions. The impact that the turnover in personnel has on critical systems should also be considered.
- If the reason behind the turnover is an expected, controlled change, it may not be a concern. On the other hand, if the turnover is sudden and due to employee dissatisfaction, it could indicate future problems.
- Consider the impact of personnel turnover on the air carrier's control systems. Well-established and maintained control systems with fully documented procedures may allow the air carrier to absorb turnover in personnel without affecting quality or safety.

### **Reduction in Workforce/Layoffs/Buy-outs**

*Workforce reductions, layoffs, or buy-outs may or may not have an impact on safety and the potential for non-compliance; it depends on how and why they occur, and who is involved. Consider the following in assessing this indicator:*

- Workforce reductions, particularly when large numbers of air carrier personnel are affected, may be managed and/or absorbed more easily by large air carriers than by small air carriers. Regardless of size, the significance of the workforce reduction, layoff, or buy-outs should be assessed to determine the impact that these events could have on the air carrier's system and operational stability.
- The pace or rate of any reduction is important. If it is gradual, steady, and implemented over a reasonable period of time, there may be no cause for concern. On the other hand, if it is abrupt, haphazard, uncoordinated, or occurs over a short time frame, it may be an indication of instability.
- In general, layoffs of administrative and support staff may cause less concern than the loss of key management or technical personnel. Loss of the most experienced personnel, as often occurs in air carrier buy-outs, or of quality, safety, or training personnel should always raise a concern.
- Consider the reason(s) for the reduction. If the reduction is due to the end of a major program or part of a normal industry cycle, it may not be problematic. Downsizing, streamlining, and reorganizations, by contrast, may be of concern depending on how they are handled. Any de-emphasis on safety and quality should be viewed with caution.
- Consider the strength of the affected program or department's control system. If they include well-established processes and controls, the air carrier may be able to absorb a workforce reduction or layoff without affecting quality or safety.
- Further consider the issue of training as it relates to workforce reductions or layoffs. Whether or not new or remaining staff are being retrained or cross-trained to perform the new functions is a factor. The basic qualifications of staff performing critical functions or roles, as well as the adequacy and effectiveness of any training provided to personnel assuming new or expanded duties, should be factored into your determination. The impact that the losses and time factor required for training or retraining has on the air carrier's systems should also be considered.

### **Rapid Expansion/Growth**

*Air carrier expansion or growth can also raise potential safety and quality concerns, and influence the likelihood of non-compliance with existing processes and controls. Rapid expansion or growth could affect the air carrier's resources and the operations, maintenance, and training programs required to run the business. Similarly, as an air carrier grows, it may not add the necessary personnel, internal control mechanisms, or financial resources necessary to sustain its infrastructure or an expanded scope of operations. Again, the "how" and "why" of these events should be considered when evaluating this indicator:*

- The speed, depth, and breadth of growth are critical. If growth is controlled and steady, as opposed to rapid "overnight" expansion, there is generally less potential for problems. If the growth involves opening a new facility or facilities, or results in new or additional geographic dispersion of the workforce, safety and quality issues should be considered.
- The nature of any growth also needs to be considered. If the company is expanding into new business areas, expanding its technological base, or bringing on new types of aircraft or programs, this may be cause for concern. Likewise, if they are acquiring new and/or additional approvals, heightened concern may be warranted.
- Do not overlook proxy growth, or internal growth—things that may not be immediately obvious. Proxy growth occurs when new or different personnel are used in the place of existing personnel or when operational authority is delegated due to absence. Greater use of outsourcing, subcontracting, or suppliers can expand a company's business without changing its staff or facility size. Internal shifts in personnel or business emphasis can also significantly affect the safety picture. Generating more output with the same or fewer resources, through process improvement or productivity enhancements, can also create de-facto growth.
- The extent to which staff size and capability have kept pace with any growth is also important. Providing appropriate training to staff in new program areas is a sign of well-managed growth. The absence of such actions should probably raise a concern. The impact of rapid expansion or growth on critical air carrier systems should also be considered.
- Consider the impact of growth on the air carrier's control systems. If they include well-established processes and controls, the air carrier may be able to absorb the growth in business areas, technology, aircraft types, or programs without affecting safety. If growth changes or reduces the efficiency or effectiveness of the control systems, further assessment is warranted.

### Merger or Takeover

*Mergers and takeovers have become increasingly common in the aviation industry. Who is buying and what they do to or with the acquired air carriers and their systems, sub-systems, and elements should drive your assessment rating. With a merger or takeover, the air carrier's management structure, personnel, contractors, and facilities may change. All of these factors could have an impact on the operational stability of the air carrier. Consider these issues if a merger or a takeover has occurred:*

- Consider whether or not the buyer has an aviation background. If not, initially this may cause problems. If they do, prior experience interfacing with the FAA and knowledge of the Federal Aviation Regulations is an additional plus, since they will know the regulations and also have a safety/compliance track record that can be checked.
- Also consider the impact of the merger or takeover on the organization's system controls. If the air carriers are substantially different, integrating their system controls may be challenging and problematic. If the merger or takeover changes or reduces the efficiency or effectiveness of the system controls, further surveillance is warranted.
- Retaining key personnel, or replacing them with qualified staff, is also an important consideration in the event of a merger or takeover. Consider the background of new staff if key personnel are laid off or replaced. A solid aviation background may compensate for the loss of personnel with air carrier-specific experience. New staff with previous civil aviation experience and Federal Aviation Regulations and FAA familiarity may ease the transition and have less of an impact on quality and safety.
- Some merger or takeover transactions have no real impact on safety or quality. The outcome may simply be a name change, or it may occur at a very high level. In these cases the impact on system or operational stability may be minimal.

### **Labor-Management Relations**

*Smooth and consistent labor-management relations are critical to the system and operational stability of the air carrier. Disagreements between labor and management can disrupt air carrier operations and have a tremendous impact on the quality and safety of an air carrier. A threatened or actual shutdown in operations can have a disastrous economic impact on an air carrier. This, in turn, can affect the stability of an air carrier's systems. On the other hand, a good working relationship between air carrier labor and management can positively affect air carrier operations and safety. Consider the following when rating the relationship between air carrier labor and management:*

- Consider the status of the bargaining agreement between air carrier labor and management. If an agreement is in place, operational, and not in the process of being re-negotiated, the relationship may be secure and stable. If the air carrier is amidst labor negotiations or scheduled to re-negotiate in the near future, the relationship, though stable, may be changing. Look for signs that indicate a lack of trust between parties. This could be an indicator of future problems. If negotiations are underway, going smoothly, and trust exists between labor and management, there may be no cause for alarm.
- An air carrier that operates as an owner/operator business may have no bargaining agreement. Look for dissatisfaction among groups within the owner/operator base to indicate instability. Long hours and low pay, even as an owner/operator, can present problems and have an impact on an air carrier's system and operational stability.
- Consider the impact that adverse labor-management negotiations can have on the air carrier's control systems. If the air carrier does not recognize a threat to their control systems, and the labor negotiations are lengthy, problems could result. If the air carrier recognizes the threat to their control function and takes steps to ensure operational effectiveness, there may be little or less of a problem.
- Ascertain whether the air carrier's current labor-management relationship has an operational impact on safety or quality. If there is no real impact at the operational level, air carrier systems may not be affected. If there is an impact at the operational level, air carrier systems could be affected and problems could follow.



## SYSTEM STABILITY/AIR CARRIER DYNAMICS INDICATORS

### Inspection Department/System (Airworthiness Only)

*The effectiveness and stability of an air carrier's Inspection Department and related processes and system controls is critical to their safety profile. Quality control, or the air carrier's capability to effectively manage and audit both the day-to-day and strategic aspects of its Inspection Department and related systems, is a critical indication of its capability to identify potential safety issues and trends before accidents, incidents, and non-compliance occur. An effective Inspection Department includes defined lines of authority, a structured process for delegation of authority, clear distinction and separation between the production (maintenance) and inspection functions, and an effective quality control or assurance function that is designed to identify and resolve issues before they become safety problems. Consider the following in rating this indicator:*

- Consider the reason behind any changes in the Inspection Department. A performance-based change may be an improvement. On the other hand, changes that do not address Performance could affect the amount of safety oversight within the department. Changes in authority, supervision, and/or Inspection Department management may be cause for concern.
- Determine if there were any changes in Required Inspection Item (RII) personnel or the RII program. If so, consider the impact of the changes on the air carrier's Inspection Department and quality control system.
- Determine the strength of the department's control system(s). The quality of the control system and its capability to consistently anticipate and indicate deficiencies is critical to air carrier self-identification of potential problems. A clear separation between the production and inspection functions is also a positive indication of the air carrier's quality control system. If the lines of distinction are not clear between these two functions, there may be cause for concern.
- Consider whether the department is structured and has systems designed to integrate enhancements and improvements. Proactive changes made to correct deficiencies before they become problems is an indication of the quality of the Inspection Department. Documentation and dissemination of potential safety issues and problems both within the Inspection Department and throughout the organization is another indication of the effectiveness of the air carrier's control system(s). Be concerned if the air carrier's Inspection Department and related systems are not designed to anticipate, identify, resolve, and document potential safety issues and trends.
- Consider the rate of change within the Inspection Department. If the change is gradual, steady, and implemented over time, then there may be no cause for concern. On the other hand, if the change is abrupt, haphazard, and/or occurs over a short timeframe, it may be an indication of instability.
- Consider the degree to which there is delegation of duties and authority within the Inspection Department. If the air carrier does not normally have a high level of delegated duties, growth in this area could be an indication of management instability or fluctuation in or lack of staff. Excessive delegation of operating authority within the Inspection Department could also be problematic, particularly if done routinely and without clear communication and full documentation.

### **New/Major Changes to Program**

*A major change in a program, or the introduction of a new program to the air carrier, can create quality or safety issues and may increase the potential for non-compliance with existing processes and controls. If the new program or program change affects the air carrier's operating plan, it could have a significant impact on the air carrier's operations, maintenance, and training systems. Consider the following in rating this indicator:*

- All new or major changes to programs should be well described and fully documented. Program documentation that does not exist or does not adequately describe the new or changed environment should raise a flag. New programs or program changes that are well documented should be no cause for concern.
- Consider the impact of new or major program changes on personnel. Does the air carrier's staff size and capabilities meet the requirements of these programs? Consider whether air carrier personnel are trained in and have a clear understanding of the new program or program changes.
- Consider the reason behind any program improvements or enhancements. Program improvements or enhancements are often positive, provided they are not motivated primarily by cost cutting and Federal Aviation Regulation compliance is maintained. Changes based on FAA recommendations and findings are to be encouraged and can generally be viewed as a positive indication of the air carrier's commitment to managed change and system stability.
- Consider the strength of the department's system control(s). Well-established and maintained system controls, with fully documented procedures, may allow the air carrier to absorb new programs or program changes without affecting quality or safety. If the programs reduce the efficiency or effectiveness of the system controls, further surveillance may be warranted.

### CAS System (Airworthiness Only)

*The quality and effectiveness of an air carrier's continuous analysis and surveillance (CAS) system can also have a significant impact—positive or negative—on their safety profile. A CAS system is intended to provide the air carrier with an internal diagnostic and evaluation tool (audit and surveillance) for continuously monitoring and correcting deficiencies in its maintenance program through a system of ongoing data collection, data analysis, and trend reporting. As air carriers are primarily responsible for the safety and stability of this program, an effective CAS system is a powerful management tool. When implemented and maintained within an environment that includes clear definition of responsibilities, process independence, management commitment, continuity, scheduled evaluation, corrective action and follow-up, and clear, concise, and available documentation, a CAS system can provide the air carrier with one critical means of ensuring management control over the maintenance organization. Consider the following when rating this indicator:*

- Determine if the CAS system is independent. To ensure that the methods of the maintenance organization conform to its requirements, the CAS system should be designed to function as an independent management tool.
- Determine if the CAS system includes an aircraft/component performance monitoring function. Consider whether that function involves collecting, compiling, and analyzing data; comparing collected data to established standards; identifying deficiencies; and taking corrective action. It could be problematic if the CAS system does not provide the air carrier with the data necessary to effectively monitor routine day-to-day activity, respond to emergency situations, and monitor long-term trends. By design, a CAS system should provide the air carrier with the data necessary to determine the cause of a problem so that corrective action can be taken to prevent similar situations from recurring.
- Consider the CAS system personnel requirements. The CAS system supporting environment should include personnel who have responsibility for evaluating the results of the CAS, defining and developing corrective action plans, and reporting CAS and corrective action results. The air carrier is ultimately responsible for the deficiencies identified through their CAS system and must have properly trained personnel to accept this responsibility and be accountable for the aircraft/component performance monitoring, internal audit and surveillance functions. Consider the air carrier's training programs in this area and the performance history of the responsible personnel.
- The CAS system should be supported by written procedures for data collection and analysis. These would include development of trend information, performance standards, reporting standards, and corrective action and follow-up standards. The effectiveness of these procedures in supporting CAS functionality should be ascertained. If these written procedures are not clearly defined and readily accessible to the personnel responsible for internal audit and surveillance, a flag should be raised.
- Determine if an internal audit and surveillance function exists to support the CAS system. The function should have the authority to follow-up on corrective action measures. If the authority to follow-up on corrective action is readily apparent and well defined, the potential for problems in this area is generally lessened. Regardless of where they are located within the organization or how the air carrier has elected to implement the requirement, the personnel responsible for internal audit and review of the CAS system results should be clearly identified and defined so that they are independent of the maintenance organization. Be concerned if the internal audit and surveillance function is not separate from the maintenance organization and does not cover all aspects of the air carrier's approved program.

**CAS System (Airworthiness Only) (Continued)**

- Determine if there is a well-designed and effective means of communicating the results of the CAS system and any related corrective actions. The CAS system should have clear and functioning channels for the flow of analysis and surveillance information. Find out if the information channels include contractors/vendors as well as the air carrier personnel. The air carrier should have a defined means for disseminating aircraft/component performance and corrective action information properly. Determine if this mechanism includes a feedback loop designed to ensure that any changes implemented as a result of the corrective action are functioning as intended and improving the process. The information to be disseminated and any actions that occur as a result of sharing this information should be documented.
- Consider changes to the CAS system in terms of the impact they may have on the performance and effectiveness of the Inspection Department and the air carrier's program covering maintenance, preventative maintenance, and alterations. In addition, consider how the change might affect the air carrier's capability to identify, isolate, and correct deficiencies in the program regardless of whether the programs are carried out by the certificate holder or by another entity. It could be problematic if the air carrier's capability to correct deficiencies is affected by the change to the CAS.

### Safety Program

*An internal safety program is one of the most powerful tools that air carrier management can employ to measure and ensure flight safety. An effective safety program can also be a measure of an air carrier's system and operational stability. Consider the following in rating this indicator:*

- Determine whether the air carrier has a formal safety program. Consider whether the air carrier has a written statement of corporate safety policies and objectives. Consider whether the air carrier has a flight safety department or a designated flight safety officer. If the air carrier has a flight safety department or officer, determine how well the policies and procedures are implemented and the effectiveness of the process. While having a designated flight safety department or officer is a positive indication, the overall effectiveness of the air carrier's safety program is most critical.
- Consider the importance of the safety program within the air carrier. Visible senior management support for these policies and objectives is a positive indication of the air carrier's position on safety. If the air carrier's management philosophy places a strong emphasis on safety, it will generally be visible throughout the rest of the organization. If the safety department or safety officer reports directly to senior air carrier management or the board of directors, this may also be an indication of the importance the air carrier places on safety.
- Consider if there is a well-designed and effective means of communicating safety information to employees. The air carrier should have an effective means for disseminating safety policies and objectives throughout the organization. Determine whether:
  - the air carrier conducts periodic company-wide safety meetings;
  - the air carrier supports periodic publication of a safety report or newsletter;
  - the air carrier distributes safety reports or newsletters from other external sources.
- Consider whether the air carrier participates actively in industry safety activities. Such activities include those sponsored by the Flight Safety Foundation (FSF), International Air Transport Association (IATA), and others. Also consider whether the air carrier has or will share their safety-related data with other air carriers.

**Internal Evaluation Program**

*The internal evaluation program should provide a measurement of the air carrier's internal processes and procedures to assess whether they are adequate and functioning properly. Consider the following in rating this indicator:*

- Determine whether the air carrier's internal evaluation program is independent of the development of procedures and the management of work. Assess whether the air carrier's program defines the responsibilities for performing evaluations, developing corrective actions and reporting results. These duties should be clearly defined so they are independent of other duties and responsibilities.
- Consider whether the air carrier's program is a structured, organized activity that includes planned and follow-up evaluations. The schedule and plan should be directed and recognized by top management. The identified deficiencies must have corrective actions implemented in a timely manner and management should hold the responsible person accountable for assuring corrective action has been taken. The evaluation program must have a process to identify what corrective action has been taken and the capability to schedule follow-up evaluations.
- Determine whether the air carrier maintains records documenting the performance and results of the internal evaluation program. The air carrier should be identifying the root causes of the conditions disclosed in findings and implementing final resolution.

### Best Practices

*An air carrier's safety philosophy or priorities are often reflected in the way that they view and apply the Federal Aviation Regulations within their organization. When an air carrier sets safety standards higher than what is required by regulation, it is referred to as a best practice. Assess and evaluate the following considerations with respect to this indicator:*

- Best practices can be transferred from one air carrier to another; implementation of a best practice has the additional advantage of transferring the safety philosophy or emphasis from one air carrier to another. Implementation of best practices by the air carrier may indicate that less FAA surveillance is required.
- Determine if the air carrier has developed best practices within its systems, sub-systems, and elements. If so, identify and assess these best practices. Consider whether or not they provide the air carrier and the aviation industry with a validated, superior method that enhances a regulatory standard, contributes to performance improvements, and that enhances the level of operating safety. Best practices are an important measure of the air carrier's commitment to quality and safety. Where a documented best practice exists within an air carrier organization or system, surveillance may potentially be reduced.
- Determine how the best practice was implemented. Ascertain if the original intent of the best practice remains valid and the safety standard in the area addressed by the best practice remains at, or higher, than the required level. If there has been any negative change in the safety standard based on the air carrier's implementation of the best practice, further investigation may be warranted.
- Consider the air carrier's process/control for continuously improving best practices. Determine if the air carrier has a continuous improvement process and, if so, where it is located within the organization. Consider whether the improvement process is independent of the best practice itself and the related air carrier system. Consider whether management is committed to this type of best practice process improvement and to implementing changes to the best practice.

### Resource Management Training

*Under Advisory Circular 120-51B, per the regulation Part 121 certificate holders will have provided crew resource management (CRM) training for flight crewmembers by March 19, 1998; CRM Training for flight attendants and dispatch resource management (DRM) training for aircraft dispatchers must be provided by March 19, 1999. Implementing or having access to an effective resource management training program for flight crewmembers, flight attendants, dispatchers, and other employees is a positive indication of the air carrier's operational stability and commitment to safety. Management of these key resources can be enhanced through an effective resource management training program. Implementation of this type of training for other employees, such as maintenance and station operations personnel, where it is not required by regulation, is a further indication of the air carrier's commitment to quality and safety. A highly effective, validated resource management training program for all air carrier personnel could constitute a best practice. Consider the following when rating the effectiveness of the air carrier's resource management training program:*

- Determine how the air carrier has implemented the CRM and DRM training requirements. If the air carrier has decided not to provide internal CRM and DRM training, determine if they have made the necessary arrangements to train their flight crewmembers, flight attendants, and dispatchers through another certificate holder. Consider the structure of the CRM and DRM training programs, and whether they include both initial and recurrent training.
- Determine the effectiveness of the resource management training program. Determine whether it meets or exceeds what is required by regulation. Consider any collected performance data available for FAA review that could be used to assess the program effectiveness. An effective resource management training program, whether provided by the certificate holder or through another certificate holder, is a positive indication of the air carrier's commitment to their employees and their emphasis on safety and system stability. Effective CRM and DRM training programs might not warrant high levels of surveillance.
- Consider whether the air carrier has implemented CRM and DRM within areas of the organization where it is not required by regulation. If so, determine if it has been proven effective. Consider whether both initial and recurrent training are included.
- Consider the effectiveness of training aids, devices, methods, and procedures incorporated in the CRM and DRM training programs. Consider whether the air carrier responds, in a timely and cost effective manner, to FAA requests for CRM and DRM curriculum adjustments and modifications. Consider the quality of the adjustments and modifications made by the air carrier.
- Consider the air carrier's position on correcting deficiencies identified through the CRM and DRM programs. If the air carrier immediately implements controls to correct the deficiencies in a manner acceptable to the FAA, further surveillance at this time may not be warranted. If, however, the air carrier does not have a strong corrective action plan and process, additional surveillance may be necessary.



### **Risk Management**

*Risk management is an iterative management activity dedicated to assuring that risk is identified, eliminated, or controlled within defined program risk parameters. Safety risk is an expression of the probability and impact of an undesired event in terms of hazard severity and likelihood. Within an air carrier, a safety risk can apply to systems, sub-systems, and elements, as well as operational and maintenance procedures. Safety risks can be triggered by both internal and external events. To ensure the operational stability of their organization, air carriers may employ a risk management methodology to proactively plan for, identify, analyze, assess, and manage risks. A proactive, well-documented process that allows the air carrier to effectively respond to risks can have a positive impact on quality and safety. The lack of a risk management process can place the air carrier in the position of reacting to risks rather than managing them. A quick and determined response to a risk is a positive indication of the air carrier's system stability and emphasis on safety. Consider the following when rating the air carrier's risk management methodology:*

- Consider the air carrier's overall risk philosophy. Consider whether the air carrier's approach to risk management is proactive or reactive. Observe how the organization reacts to a risk or a change that could incur risk. If the air carrier places a strong emphasis on safety, cooperation, and corrective action, it will generally have a more visible, proactive response to risk.
- Determine whether the air carrier has a formal risk management process. Consider whether the air carrier has documented planning, hazard identification, hazard analysis, hazard assessment, and risk management steps. Determine whether the air carrier's process allows them to quickly plan for, identify, and manage potential hazards, and make competent risk management decisions. An effective, well-documented, and proactive process is a positive indication of the air carrier's approach to risk management and safety.
- Determine whether the air carrier has been successful in controlling risks within the organization and implementing corrective action using their risk management process. Consider whether the process provides the means to accept, transfer, avoid, and mitigate the risk.
- Consider if the air carrier has a well designed and effective means of communicating risk management-related information and the results of risk management activities throughout the organization. A strong response on the part of management, a willingness to communicate openly with all affected parties, and the capability to establish and maintain a good working relationship between air carrier personnel and the FAA can have a positive impact on quality and safety.
- Consider the air carrier's decision making process. Determine whether the air carrier has an internal planning process to gather the information necessary for competent risk management decision making. Consider whether the air carrier uses simple experiential decision making or more sophisticated techniques such as simulation, reliability analysis, fault or hazard tree analysis, or other tools. Determine if the selected technique provides the air carrier with the information necessary to make reliable risk decisions.
- Consider the air carrier's hazard identification process. Determine whether the air carrier has an analytic process to identify and validate hazards. If so, do they also have the capability to properly evaluate the significance and probability of the hazards, including a review and assessment of their systems and system interfaces? Complex systems may require modeling tools, simulations, and other methods of analysis to establish critical paths and interfaces. Consider how the air carrier determines if identified hazards are under acceptable control or if corrective action is required.

**Risk Management (Continued)**

- Consider the impact of organizational change on the air carrier's risk management philosophy. Ascertain whether the air carrier is currently managing or anticipating additional risk to their operation. Determine if the current or anticipated risk could have an operational impact on safety or quality. Determine the effectiveness of the risk management process during change. Consider the impact of personnel changes. Determine the impact of cost cutting and greater "bottom line" pressure.
- Determine the impact of risk on the air carrier's system controls. If segments of the air carrier's operation and the related system controls are affected by a risk, consider how the system controls respond to the risk. Also consider how the air carrier responds to any impact that the risk has on the system controls.

### **Cooperative Relationship with Assigned FAA Personnel**

*A cooperative relationship between air carrier and assigned FAA personnel may be a positive indication of the operational stability of the air carrier. Strong communication, a high level of trust, and a good working relationship between key air carrier personnel and the FAA personnel assigned to monitor the air carrier can also have a positive impact on quality and safety. A weak communications infrastructure and a lack of trust between parties can have a negative impact on air carrier operations, quality, and safety. This, in turn, can affect the stability of the air carrier's systems. Consider the following when rating the relationship between the air carrier and assigned FAA personnel:*

- Determine if there is a good working relationship between air carrier and FAA personnel. If there is a history of strong two-way communications and a good working rapport, the relationship should be stable and secure.
- Consider whether the air carrier is willing to share data and findings with the FAA. Where high quality information is readily accessible and available to the FAA, less surveillance may be warranted.
- Consider whether or not the air carrier is willing to conduct joint inspections with the FAA and welcomes FAA recommendations and suggestions.

### Human Factors

*Human factors are the overall set of operating, system, safety, ergonomic, and environmental considerations that the air carrier has implemented to ensure the safety, health, well-being, motivation, and continued effectiveness and performance of their employees. In a well-functioning organization, human factors are built into every aspect of the business. An organization that emphasizes human factors values its employees as a resource without which they would not be able to succeed. Given the labor-intensiveness of most air carriers, human factors could be a critical component of their safety profile and their financial success. Consider the following when rating this indicator:*

- Consider whether or not the air carrier has a specific program that addresses human factors. Are human factors integrated into all aspects of the air carrier's operation? Does the air carrier have a separate department or unit within the organization dedicated to human factors? Determine how the air carrier handles human factors and the effectiveness of the human factors within their operations. Consider whether or not human factors have corporate level support within the organization. A corporate human factors policy or philosophy can go a long way toward ensuring the application of human factors throughout the organization. Determine if the air carrier's application of human factors has an impact on the safety of their systems.
- Determine how human factors are actually applied within the air carrier organization. Does the air carrier have a human factors training program, or does the air carrier integrate human factors into all aspects of its training program? Does the air carrier try to help their employees succeed in applying safety through human factors? In other words, does the air carrier look at the reasons for errors and safety problems and try to educate their employees on how to correct problems and errors rather than firing or transferring employees? Do they have a process to ascertain the root cause of human factors problems?
- Consider how the application of human factors within the air carrier enhances or hinders the safety of the air carrier's systems and environment. Have human factors been built into the air carrier's CAS and safety systems? If so, do the training programs that support these systems also incorporate the related human factor tools and techniques? Consistent application of human factors is critical to their success.
- Determine if the air carrier participates in the Maintenance Error Decision Aid (MEDA) program. Programs such as MEDA are designed to enhance human factors within an organization and can be used as powerful and effective education and training tools.

## OPERATIONAL RISKS/PERFORMANCE HISTORY INDICATORS

### Enforcement Actions

*Enforcement Actions provide an indication of the air carrier's performance history. They are the reported results of any administrative and/or legal enforcement that the FAA has taken against an air carrier and/or certificated personnel to require compliance with a Federal Aviation Regulation.*

*To be most effective, this data must be reviewed and analyzed in conjunction with the air carrier's corrective action plan and results. Taken together, the Enforcement Investigation Reports (EIR), the FAA recommendations, and the air carrier's corrective actions can provide insight into the air carrier's response to problems identified in their environment. Analysis of this data provides one means of assessing the air carrier's safety and quality assurance profile; trends that are evident in the data may also indicate changes in management or operational philosophy. FAA enforcement actions, the air carrier's response to these actions, and trends in enforcement actions can have a significant impact on an air carrier's safety profile and potential for failure in an air carrier's systems, sub-systems, and elements. Consider the following when rating this indicator:*

- Consider the number, type, and criticality of the EIR. Enforcement actions can provide an indication of the stability of the air carrier and their systems. Consider if the EIR is repeated in the same or an interfacing area. Multiple EIR, whether they address similar or dissimilar alleged violations, could be an indication of management, economic, and/or operational changes that could affect the air carrier's systems and safety profile. Compare the EIR to other air carrier activity reports (e.g., accidents, incidents, occurrences, complaints, Freedom of Information Act (FOIA), and Congressional Inquiries). Consider the accident, incident, and occurrence data and its relationship to the EIR data.
- Consider the root cause of the EIR. Knowing why the air carrier is having problems in one area could provide an indication of problems that exist or are developing in another area. Consider what the EIR means from a systems perspective. Consider whether or not the alleged violation has an impact on the air carrier's major systems. Each EIR should be considered in light of all the systems that it could affect.
- Consider the air carrier's EIR performance history. Consider whether the air carrier has initiated corrective action and follow-up processes and procedures necessary to address the EIR in a manner that has a positive impact on operations, quality, and safety. A strong and determined response to an enforcement action is a positive indication of the air carrier's commitment to the regulations and to safety.
- Determine the strength of the applicable department's system controls. Consider whether or not the system controls are affected by the EIR, the FAA's recommendation, and any corrective action taken by the air carrier. If there are effects, consider how the system controls respond.
- Consider whether or not the EIR might have had an impact on any aspect of the air carrier's training program. If there is any impact, determine which aspects of the training program have been affected. Further, determine the implications of the impacts in terms of additional surveillance requirements.

### Accidents/Incidents/Occurrences

*Accident, incident, and occurrence data may provide a measure of the air carrier's performance history. An accident is an event associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage. An incident is an event, other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations. An occurrence is any event other than normal operations that is not an accident or incident. A near midair collision is an incident associated with the operation of an aircraft in which a possibility of collision occurs as a result of proximity of less than 500 feet to another aircraft, or where a report is received from a pilot or other flight crewmember stating that a collision hazard existed between two or more aircraft.*

*The data associated with accidents, incidents, occurrences, and near midair collisions provide performance information related to the circumstances, the conduct of any related investigations, any safety recommendations made by FAA, and any corrective action taken by the air carrier. Collectively, this information may provide a point-in-time measure of the air carrier's performance and the FAA's recommended action in response to this performance. To be most effective, this data should be analyzed in conjunction with the air carrier's response, corrective action plan, and ongoing follow-up activities. When considered together and over a period of time, specific accident/incident/occurrence and other related data may provide insight into the air carrier's response to identified problems. Immediate response to accidents as well as performance history in this area can have a major impact on an air carrier's safety profile and potential for failure in their systems. Consider the following when rating this indicator:*

- Consider the number, type, and criticality of the accident(s), incident(s), and occurrence(s). Those that are repeated in the same or an interfacing area provide some indication of the status of the air carrier and their systems. Repeated activity could be an indication of management, economic, and/or operational problems or changes that could affect the air carrier's systems.
- Consider the root cause of the accident(s), incident(s), and occurrence(s). Knowing why they happen could provide an indication of problems that are specific to the air carrier and/or problems that are systemic and could affect other air carriers. Consider what the accident means in terms of the air carrier's systems as well as the environment in which the air carrier operates. Each accident, incident, and occurrence should be considered in light of all the systems that it could affect.
- Accident(s), incident(s), and occurrence(s) information is provided in a variety of different formats including Aircraft Accident/Incident Preliminary Notices, FAA Accident Investigation Records, Investigation of Pilot Deviation Reports, Accident/Incident Corrective Action Records, etc. The information provided on these reports provides an indication of the air carrier's performance history and should be reviewed as part of the assessment of this indicator.
- Determine the strength of the air carrier's system controls. Consider whether the system controls are affected by the accident(s), incident(s), or occurrence(s), the FAA's recommendation, and any corrective action taken by the air carrier. If so, consider how the system controls respond.

**Accidents/Incidents/Occurrences (Continued)**

- Consider the air carrier's accident(s), incident(s), and/or occurrence(s) performance history. A strong and determined response is a positive indication of the air carrier's commitment to the regulations and to safety. A weak, quick-fix mentality could be an indication of the air carrier's unwillingness or inability to address the problems identified as a result of an accident, incident, or occurrence. Consider whether or not the air carrier has initiated corrective action and follow-up processes and procedures necessary to address the accident(s), incident(s), and occurrence(s) in a manner that has a positive impact on operations, quality, and safety. While additional surveillance may still be required, this type of positive response indicates the air carrier's commitment to safety and quality.
- Consider whether the accident(s), incident(s), and/or occurrence(s) should have had an impact on any aspect of the air carrier's training program. If so, determine which aspects of the training program have been affected. Further, determine the implications of the impacts in terms of additional surveillance requirements.

### DoD/ RASIP

*The Department of Defense (DoD) Air Carrier Survey and Analysis Team is responsible, under Public Law 99-661 and other DoD directives, for monitoring the air carriers who do business with the DoD. The scope of their oversight includes major airlines, commuter airlines, air taxis, charters, and small air carriers. To meet this mission, they developed the DoD Commercial Air Carrier Quality & Safety (Q&S) Requirements to supplement their regulations and directives. Together, the regulations, directives, and Q&S requirements form the basis for the DoD surveillance auditing process. This process is documented on a structured Air Carrier Operations Survey Checklist. The results of this audit process are made available to the FAA for review. While the structure of the DoD surveillance auditing process varies from the FAA process, the results provide a unique view of the air carrier, as DoD is often an airline's largest customer and their process allows them to survey major air carriers every two years.*

*Consider the following when rating this indicator:*

- Consider the scope and timing of previous Regional Aviation Safety Inspection Program (RASIP) inspections and DoD surveys. The results of these inspections/surveys can provide an indication of the stability of the air carrier and their systems. Determine if the most recent DoD survey was a complete (every two years) evaluation or a table top (every six months) review.
- Consider whether the results of a RASIP and/or DoD survey have affected systems, sub-systems, or elements. Determine which aspects of the systems were affected. Further determine what these impacts might mean in terms of additional surveillance requirements.
- Consider whether or not the DoD has ever had to enforce any follow-up actions as a result of the DoD survey including:
  - put the air carrier on temporary non-use status and re-certify them;
  - put the air carrier on their Close Watch Program that includes a table top review every month; or
  - remove the air carrier from their list of qualified air carriers.
- Consider whether the DoD has ever had to raise surveillance issues to one of their higher authorities - either the Commercial Airlift Review Board (CARB) or the Commercial Air Carrier Authority. If so, how has the issue been resolved? Consider what these types of DoD actions and the results might mean in terms of further FAA surveillance requirements.



### Self-Disclosures

*Self-disclosures are intended to provide the air carrier with a means to generate safety information that may not be captured through the traditional reporting mechanisms. The details of the program are documented in AC 120-58, "as revised." The self-disclosure process provides the air carrier and their employees with a means by which they can disclose information and identify possible violations of the Federal Aviation Regulations. Self-disclosure of this type of information may be a positive indication of the air carrier's commitment to addressing safety problems and proactively identifying potential safety hazards. It may also be a positive indication of the air carrier's emphasis on safety and willingness to better manage their safety profile. Self-disclosure of problems by the air carrier to the FAA can also heighten the trust that exists between the two entities and is a visible demonstration of cooperation. Trust and cooperation between air carrier and FAA personnel can have a positive impact on quality and safety. Consider the following when rating this indicator:*

- Determine whether the air carrier has a self-disclosure process. Determine if the carrier's self-disclosure process results in timely, effective, and efficient reporting of information to the FAA. Consider how the air carrier has elected to implement the process and address the results of self-disclosed safety problems. Consider whether there are well-documented procedures for the self-disclosure process and for the continuous tracking and analysis of self-disclosed safety related issues. Determine how the self-disclosure process has been received by carrier management and personnel, and if management is encouraging the process.
- Consider if there is a well designed and effective means of communicating the self-disclosure process to employees. Determine if and how the process specifications were communicated to employees. Determine if air carrier employees know that their employer is encouraging self-disclosure of problems and violations. Assess how the air carrier communicates the results of self-disclosed problems/violations internally. Determine if the air carrier shares and exchanges information that identifies actual or potential safety problems with all affected internal parties and FAA.
- Consider the overall effectiveness of the self-disclosure process. Consider how well the internal self-disclosure review and assessment process is working and if it is providing the means necessary to increase and improve the flow of safety information to all parties. Consider if the self-disclosure process has positively affected reducing problems or violations.
- Consider air carrier response to self-disclosures. Determine if there is a history of corrective action related to self-disclosure. Determine if the carrier has used the results of the self-disclosure process to retarget surveillance. Determine whether the air carrier immediately implements acceptable controls to correct problems identified through the self-disclosure process. Consider the carrier systems that have been affected by self-disclosures. Have the systems been affected to the point where their functionality or controls have been jeopardized? Has the carrier's corrective action process allowed them to manage the impact of self-disclosures on their systems?
- Consider whether the results of the carrier's self-disclosure process should have had an impact on any aspect of their training program. If so, determine which aspects of the training program have been affected. Further determine what actions the carrier took to ensure the ongoing stability, quality, and safety of any affected aspects of their training program. Ascertain what these impacts might mean in terms of additional surveillance requirements.

### Safety Hotline/Complaints

*A complaint is an expression or a formal charge of dissatisfaction made by any entity against the air carrier. Because of their position within the air transportation industry, both air carriers and FAA receive a variety of complaints. The complaints that affect surveillance planning are those received by FAA from consumers, vendors/suppliers, other air carriers, employees, and members of Congress or their constituents that may be related to air carrier or aircraft operations, maintenance, quality, stability, compliance, or safety. Requests for information that fall under the Freedom of Information Act (FOIA) that relate to an air carrier complaint should also be factored into this indicator of the carrier's performance history. Complaint information and history as well as any actions taken as a result of a complaint provide an external view of how the carrier is perceived by consumers and within the industry. Problems identified through a simple complaint or series of complaints could indicate that the carrier is having trouble managing one or more systems. Consider the following when rating this indicator:*

- Determine whether the air carrier has a process to address and manage complaints. Consider whether there are well-documented procedures for the complaint process and for the continuous tracking and analysis of complaint-related issues. Consider how the carrier assesses, analyzes, and categorizes complaints. Determine if certain types of complaints are given more credence or weight than other types of complaints. Determine how the complaint resolution process interfaces with the carrier self-disclosure process.
- Consider if there is a well designed and effective means of communicating the complaint process to employees. Assess how the carrier communicates the results of the complaint resolution process internally. Determine if the air carrier shares and exchanges information that identifies actual or potential safety problems with all affected internal parties and FAA.
- Consider the overall effectiveness of the complaint process. Consider how well the internal complaint review and assessment process is working and if it is providing a means to improve operations and safety. Determine if the process has positively affected reducing problems or violations. Consider the impact of the complaint resolution process on the carrier. Consider whether the carrier's systems have been affected by complaints. Further consider whether the carrier recognizes the impact on their systems and takes action to correct the problems.
- Consider air carrier response to complaints. Determine whether the air carrier's corrective action process has allowed them to effectively manage the impact of complaints on their systems. Consider how the air carrier involves employees, management, and FAA in the complaint resolution process. Also consider the carrier's position on complaints in the context of further surveillance requirements.
- Determine if the air carrier has used the results of the complaint resolution process to enhance safety. If the air carrier does not have a strong corrective action plan and process, or no history of corrective action related to complaint resolution, additional surveillance may be warranted.
- Further determine whether the complaint should have affected any aspect of the carrier's training program. If so, determine which aspects of the training program have been affected. Consider what these impacts might mean in terms of additional surveillance requirements.

### **New Entrant Carrier**

*A new entrant carrier is an air carrier that has conducted operations under part 121 for less than five years. At the point of initial certification, FAA requires an applicant to demonstrate that it has the resources and required operations, maintenance, and training programs to run the air carrier. FAA issues its certificate based on this demonstration of air carrier management and operational capability. Similarly, the Office of the Secretary of Transportation (OST) issues its economic authority based on the management structure and financial resources in place to support the applicant's initial operating plan.*

*From the time of initial certification through the first five years of operation, the air carrier's continuing fitness is reaffirmed through the surveillance process. Surveillance of new entrant carriers is often difficult because of the lack of history and data associated with the air carrier. Newly certificated air carriers may require additional surveillance to determine that they have the resources and infrastructure necessary to support stable, safe operations and growth.*

*The new surveillance planning and targeting process and the CSP provides for an environment where the surveillance of new entrant air carrier systems cannot be reduced from the baseline levels. Surveillance of new entrant air carrier systems can, however, be increased as a result of this assessment. If heightened surveillance is warranted, the plan will focus on assessing and verifying the air carrier's systems, sub-systems, elements, operations and maintenance procedures to ensure they are being followed. This will provide the Principal Inspector (PI) with surveillance data from which to make certificate management decisions. Consider the following when rating this indicator:*

- Determine if any risks for the new entrant air carrier have been identified. Consider any risks identified as a result of surveillance results or periodic safety and financial fitness reviews. Consider any risks identified in the air carrier's outsourcing, fleet mix, growth rate, or other high-risk programs or triggers. Determine if the risks warrant targeted surveillance in specific areas.
- Consider whether or not the air carrier has provided the FAA with a revised business plan. This should include a projection of its expected growth and/or an explanation of how it will manage expected growth with respect to safety. Was the air carrier able to effectively manage and support growth or change in its systems? Determine what the results of any growth or change might mean in terms of additional surveillance.
- Determine if an air carrier has a growth model available for surveillance planning purposes. This model should depict what the air carrier needs from a safety perspective to operate its current fleet of aircraft and what is required for a larger operation as the air carrier grows. If so, run the model based on any changes in the air carrier's configuration and/or environment. Consider the results in terms of the air carrier's systems, sub-systems, and elements. Interpret the results of the modeling exercise in terms of planning surveillance requirements.
- Consider if any operational limitations have been imposed on the new entrant air carrier's Operations Specifications. Limitations may be on the size and/or number of aircraft types, makes, or models, and/or the scope of its operations. Consider why these limitations were imposed and what the air carrier has done to prove its capability to manage current operations without compromising safety. Determine how the air carrier is performing at its current level of operations and what the results of this analysis mean in terms of surveillance requirements.

### SPAS Trend Indicators

*SPAS Trend Indicators provide an indication of the performance history of the air carrier over time. They include all of the SPAS performance measures except those related to changes in key personnel and carrier credit ratings. SPAS trend information is available in different formats, can be used to drill down to a detailed level, is available for five previous years, and can be used to compare the carrier to its own records or to the average performance of the entire industry segment in which it is categorized. PTRS data is used to compile and track the changes in these categories.*

*Individual, comparative, and subject analyses can be completed with this set of measures. Individual analyses can be used to detect developing trends by comparing current to past carrier performance. Comparative analyses can be completed to determine national trends and to compare the performance of the carrier to other carriers in their peer group. Subject analyses can be completed to identify specific problems that an air carrier may be having in a specific subject area. These analyses can provide an indication of changes in air carrier maintenance and operations. These types of changes can have a significant impact—positive or negative—on an air carrier’s systems, sub-systems, and elements. The Principal Inspector must determine the appropriate type and level of SPAS trend analysis based on the subject area, data availability, complexity of the certificate, and past surveillance results. Consider the following when rating this indicator:*

- Major changes, whether favorable or unfavorable, in the SPAS Trend Indicators can provide an indication of the stability of the air carrier and their systems. A large percentage of change over a twelve-month period could be an indication of operational changes that could affect the air carrier’s safety profile. Look for trends in performance based on past history and group performance. Consider how the trend may affect the carrier’s systems, sub-systems, and elements. Where necessary, drill down to specific events to review the underlying data.
- The reason behind any change(s) in trends is also important. A favorable change could indicate that the air carrier is taking steps to improve performance based on prior surveillance results. An unfavorable change could indicate that a problem exists or is developing. Each change should be considered in light of the systems that it could affect.
- The rate of change in the SPAS Trend Indicators is also important. If the change is gradual, steady, and evidenced over a reasonable period of time, then there may be no cause for concern. However, a change that is abrupt, haphazard, uncoordinated, and/or occurs over a short time frame may be a sign of potential trouble. Look for explanations as to why the trend and any changes occurred. Consider the corrective action that was taken.
- Try to place the trend in context with other air carrier activities. The present configuration of SPAS does not generate alerts based on air carrier outsourcing or growth rates. Consider the trend in light of any changes in the carrier’s economic position or operating rules. Has the carrier experienced rapid growth or expansion? Has the carrier contracted to outsource its maintenance or training programs? Determine if these types of external changes could have an impact on the trend data available through SPAS.
- Determine if any relationships exist between the various SPAS performance measures. Consider any trends that become apparent based on these relationships. Identify potential adjustments to surveillance requirements.
- Consider whether the SPAS Trend Indicators might have had an impact on any aspect of the carrier’s training program. If so, determine which aspects of the training program might have been affected. Further, determine what these impacts might mean in terms of additional surveillance requirements.

## OPERATIONAL RISKS/ENVIRONMENTAL CRITICALITY INDICATORS

### Age of Fleet

*Currently, jets in the U.S. commercial fleet average sixteen years of age. From FAA's perspective, aging aircraft are defined as aircraft of any make or model that are fifteen years or older. Much of the current U.S. commercial fleet of jets, therefore, can be considered aging aircraft. This is an important safety consideration as additional surveillance may be required. To ensure aging aircraft are safe, air carriers perform detailed inspections at set intervals. The age of the fleet also has an impact on the carrier's systems, sub-systems, and elements. As most aging aircraft contain aging systems that lack the technology and sophistication of newer aircraft, the associated training must be leveled to meet the system requirements. The age of the aircraft in the fleet is also important from a new entrant carrier perspective. The age of the new entrant's fleet must be taken into consideration for developing the surveillance plan. Consider the following when rating this indicator:*

- Determine by make and model what percentage of the air carrier's fleet is aging aircraft.
- Determine whether the air carrier has a process to survey and inspect aging aircraft. Determine if the process has been able to identify and evaluate all aging aircraft in the fleet on the required intervals. Consider how the carrier documents the results of surveillance and inspection, and appropriately adjusts the required inspection intervals.
- Determine the overall effectiveness of the aging aircraft identification process. Consider whether it has allowed the air carrier to manage the operational risk associated with aging aircraft. Consider what the age of the air carrier's fleet and the internal surveillance process means in terms of surveillance requirements.
- Consider the impact of aging aircraft on the air carrier's maintenance program. Consider whether or not the air carrier recognizes the impact of an aging fleet on the maintenance program, systems, sub-systems, and elements. Is the program and the related infrastructure adequate enough to meet the enhanced requirements associated with aging aircraft?
- Determine if the air carrier immediately implements controls to correct problems with their aging aircraft or related systems, sub-systems, and elements in a manner acceptable to FAA. An air carrier having a strong corrective action plan and policy indicates their commitment to maintaining a safe fleet of aging aircraft. If the air carrier does not have a corrective action plan, controls, and processes, additional surveillance may be warranted. Determine whether or not the air carrier's corrective action process has allowed them to effectively manage the impact of aging aircraft on their maintenance program and systems. Consider what these impacts might mean in terms of additional surveillance requirements.
- Consider if there is a well-designed and effective means of communicating the maintenance requirements associated with the aging fleet to employees. Determine if the air carrier shares and exchanges information that identifies actual or potential safety problems associated with their aging aircraft with all affected internal parties and FAA. Consider the effectiveness of the communications process and if it provides a means to improve operations and safety.

### **Varied Fleet Mix and Mixed Fleet Configuration**

*A varied fleet mix exists when an air carrier uses different series of aircraft and multiple types within the same fleet. A mixed fleet configuration exists when an air carrier uses a variety of different aircraft types or a mix of models of the same type within the same fleet. Many established carriers have long operated a varied mixed fleet and/or mixed fleet configurations. The implications for operating this type of fleet are even more significant for new entrant carriers, where resources and infrastructure may be a major consideration. These types of environments can significantly affect an air carrier's safety profile and the potential for failure in their systems, sub-systems, or elements. Consider the following when rating this indicator:*

- Consider whether the air carrier has the resources and infrastructure to support a varied fleet mix operations and/or mixed fleet configuration. Determine whether the air carrier's management structure and operations approach have been adequate enough to handle the impact of a varied fleet mix and/or mixed fleet configuration. A varied fleet mix increases the demands for managing different maintenance procedures and processes, multiple maintenance manuals, crewmember and mechanic training, training manuals, ground support equipment, and scheduling and inventory costs. Consider the origin of the aircraft and what this means in terms of operational and system stability. Further determine what the air carrier's performance in this area might mean in terms of surveillance requirements.
- Consider the impact of a varied fleet mix and/or mixed fleet configuration on the air carrier's maintenance program. Determine if the systems, sub-systems, elements, and related infrastructure are adequate enough to meet the complex requirements associated with operations of a varied fleet and/or a mixed fleet configuration. Is the air carrier's parts control system adequate and effective? Does the air carrier have the necessary test equipment?
- Consider the impact of a varied fleet mix and/or mixed fleet configuration on the air carrier's operations program. Determine if the operations systems, sub-systems, elements and related infrastructure are adequate enough to meet the complex requirements associated with operations of a varied fleet and/or a mixed fleet configuration? Are the air carrier's flight operations system controls adequate and effective? Does the carrier have the necessary controls to handle the different cockpit configurations that will be present in a varied fleet mix? Further consider whether the air carrier has recognized the impact on the systems, sub-systems, and elements.
- Consider the strength of the air carrier's system controls. If they are well established with fully documented procedures, then the carrier may be able to have a varied fleet mix or mixed fleet configuration without affecting safety. Ensure that the system controls are not adversely affected as the composition of the carrier changes.

### Complexity of Aircraft

*The complexity of the aircraft in the air carrier's fleet can significantly affect an air carrier's safety and the potential for failure in their systems, sub-systems, or elements. A change in the complexity of the aircraft in the fleet can also affect operational and system stability. Complex aircraft generally incorporate more sophisticated technology. Often new or emerging technology is an extension or a further iteration of existing knowledge and methods. However, a change in complexity or technology may mean that the carrier must support both manual and automated processes and procedures for the different environments. Innovative technology can increase or decrease the potential for non-compliance with existing processes and controls. Consider the following when rating this indicator:*

- Consider the type and age of the air carrier's technology. Complex aircraft are generally technology-driven, with more and diverse systems. The technology is considered complex when it is either new to the industry or the aircraft. Consider how the technology being introduced into the air carrier might affect the operations, maintenance, training programs, and systems. Further consider whether the air carrier is changing the sophistication level of technology (e.g., moving from the F28 to the F100) or implementing an entirely new type of technology (e.g., glass cockpit, FMS systems, and fly-by-wire systems).
- Consider the air carrier's preparedness for the new or different technology. Determine if the air carrier had access to the production or maintenance history of the new technology. If so, this information can help the air carrier in transitioning the new technology into their operations. If this information was not available to the carrier, the transition could pose a potential safety issue. The absence of an established body of knowledge and experience (e.g., industry standards) or unavailability of this information to the air carrier indicates that additional surveillance may be appropriate.
- Consider the impact of new technology on the air carrier's systems, sub-systems, and elements. The new technology may impact the air carrier's training program, tooling and testing equipment program, parts control and handling program, and the integration of these changes and differences across the carrier. Further consider whether the new technology places a requirement for special or additional equipment on the air carrier. If so, has the air carrier purchased and integrated the necessary equipment into their operation? Determine if the carrier will be able to support these types of changes throughout their operation. If not, there may be cause for additional surveillance.
- Consider the strength of the air carrier's system controls. If the systems are well established with fully documented processes and controls built in then having new technology may not negatively affect quality or safety. Determine whether or not the carrier has adapted their system controls to meet the requirements of the new technology. Consider the impact of not adapting their system controls on surveillance requirements.
- Consider the air carrier's performance history with regard to new technology. If this history indicates that the air carrier has implemented the processes and procedures necessary to successfully integrate new technology, then additional changes in technology may not have negative impacts. If the carrier encountered problems with previous changes in technology, additional surveillance may be appropriate.

**Outsource (M, T, GH)**

*The current aviation industry is faced, more and more, with outsourcing of traditional carrier functions to independent contractors. While established air carriers outsource some of their major programs, the trend has been for the new entrant carriers with rapidly changing operations to start small and outsource high-cost items such as maintenance (M), training (T), and ground handling (GH). In addition, outsourcing has developed to the point where multiple levels of contractors could be involved in providing the service. The carrier's outsourcing policies can significantly affect their maintenance, training, and operations systems, sub-systems and elements and their overall safety. Consider the following when rating this indicator:*

- Consider the scope of the air carrier's outsourcing program. Does the air carrier outsource any functions in maintenance, training, and/or operations? Consider the different types of contractual arrangements, such as leasing, that may exist between the carrier and its contractors. Determine if the primary contractor subcontracts any of its services (e.g., a part 121 carrier may contract for maintenance with a certificated part 145 repair station who, in turn, contracts some of the services to licensed mechanics not employed by the part 145 repair station). Consider how the air carrier's outsourcing policies affect surveillance requirements.
- Consider the qualifications of contractors used by the air carrier for outsourcing. Determine if contractors were approved by FAA prior to being authorized for use by the air carrier. Determine if FAA has completed any interim evaluations of the air carrier's contractors. If so, what were the results? Determine if all of the contractors performing substantial maintenance and training for an air carrier have been listed in the air carrier operations specifications.
- Consider the maintenance function that has been contracted out by the air carrier. Has the air carrier outsourced substantial heavy maintenance or emergency limited maintenance? Does it include everything between emergency limited and substantial heavy maintenance including B, C, and D checks? Outsourcing of maintenance could be at any level and could include anything not done by an employee of the air carrier.
- Consider the ground handling function that has been contracted out by the air carrier. Does the ground handling contract include support personnel? Has the carrier bought or leased ground space from another carrier? Does the ground handling contract include all station personnel? Ramp personnel only? De-icing personnel only? Fueling/refueling personnel only? Or some combination of ground handling staff? If the carrier is small, does the ground handling contract include maintenance?
- Consider the training program that has been contracted out by the air carrier. Determine if and how it addresses new hire requirements. Consider how the air carrier's outsourcing policies and contractual arrangements affect surveillance requirements.
- Consider the air carrier's oversight of the outsourcing program. The air carrier is responsible for ensuring that any outsourced maintenance, training, and ground handling functions are conducted in accordance with the air carrier's manuals. Determine whether the air carrier has an effective oversight program to manage its contractors. Have the air carrier's systems, sub-systems and elements been impacted by the lack of oversight? Determine if the air carrier's safety audit function has been enhanced to include the outsourced functions.



### Seasonal Operations

*Seasonal operations, or operations performed by an air carrier for a period of time during a particular season or time of year to satisfy a short-term need, can significantly affect an air carrier's safety. Seasonal operations, while limited in nature, require as much or more preparation and attention to the quality and safety of the services provided as regular operations. For example, carriers engaging in seasonal operations that occur during the winter months and target the consumer flying to and from ski resort areas must be prepared to manage aircraft de-icing and all of the associated requirements. If the air carrier does not normally fly this route, or only operates during the ski season, de-icing may not be part of their regular operations. Consider the following when rating this indicator:*

- Consider the scope of the air carrier's seasonal operations. Consider the quantity, type, and location of the air carrier's seasonal operations. Consider how the seasonal operations affects systems, sub-systems, and elements.
- Consider the air carrier's performance history with regard to seasonal operations. Does the air carrier have experience in seasonal operations? Is that experience comparable to the air carrier's current seasonal operations? Has the air carrier encountered problems with seasonal operations? If so, additional surveillance may be appropriate.
- Consider whether the air carrier is structured and has systems, sub-systems, and elements designed to support seasonal operations. Determine if the air carrier has implemented the processes and procedures necessary to properly manage seasonal operations. Determine the adequacy and effectiveness of the air carrier's infrastructure to support the seasonal operations.
- Consider the impact of seasonal operations on the air carrier's audit function. Determine if the audit function includes any special considerations that result from seasonal operations. The carrier's capability to ensure that its core business functions during seasonal operations are fully integrated into its systems, sub-systems, and elements and reflects positively on its management control and oversight.

### Relocation/Closing of Facilities

*Quality control across the various types of stations and the carrier's capability to manage an integrated set of station operations are critical. Relocation or closing of a facility or facilities can significantly affect an air carrier's safety and the potential for failure in their systems, sub-systems, or elements. Relocation of a facility includes both adding a new facility and moving an existing facility to another site on the air carrier's approved route. Adding a new facility, relocating an existing facility, or closing a facility, can affect the air carrier's operational and system stability. The way maintenance, operations, and training programs are implemented and managed across a varied station base is an important criterion. This must be accomplished without affecting the quality and safety of ongoing operations. Consider the following when rating this indicator:*

- Consider the number, type, and effectiveness of the stations maintained and managed by the air carrier. Determine if the carrier's facilities have remained relatively stable. Consider the number of new stations currently managed by the carrier. Consider the longevity of the facilities managed by the air carrier.
- Consider the air carrier's performance history with regard to relocation or closing of facilities. Determine whether the air carrier has effectively managed changes to facility bases. Consider the rate and pace at which the carrier adds, relocates, and/or closes facilities. If the change is steady, implemented over time, and is accompanied by appropriate training, documentation, and manual changes, it may be easily integrated into the current operation of the station(s). On the other hand, a change that is major, abrupt, haphazard, and/or occurs over a short timeframe may be a sign of potential trouble.
- Consider the impacts of adding, closing, or relocating a facility. New facilities may require more surveillance than older, established facilities. When the carrier adds a new facility, consider the background and experience of the personnel assigned to the new facility. Consider the impact that a change in facility has on the personnel requirements and whether the carrier has adequate resources and training. Determine if the addition, closing, or relocation has resulted in a change of station managers. The significance of the change in station management should be assessed to determine the potential impact on the carrier's system and operational stability. Further, if the changes of adding, closing, or relocating a facility are not consistently applied through training and procedures, and disseminated to personnel, the carrier may be faced with different and potentially inconsistent methods of operation. This can have a negative impact on both the quality and safety of the services provided by the station.
- Consider the strength of the air carrier's systems, processes and controls. Consistency in the carrier's systems and procedures is an indicator of their ability to manage a varied station base.



### Lease Arrangements

*The aviation industry operates in an environment that includes a variety of different leasing arrangements among air carriers and between air carriers and other business entities. These arrangements are increasingly used to meet market demands and seasonal operations. Not only have carriers begun to use a leasing option to obtain services, but also the number and types of leasing arrangements have increased.*

*A lease is any agreement by a person (the lessor) to provide an aircraft to another person (the lessee) who will use the aircraft for compensation or hire purposes. A “wet lease” arrangement is a leasing agreement whereby a certificate holder agrees to provide an aircraft and at least one crewmember to another air carrier. In contrast, a “dry lease” arrangement is any agreement in which a lessor such as an air carrier, bank, or leasing company leases an aircraft without any crewmembers to an air carrier (the lessee) and in which the lessee maintains operational control. An “interchange agreement” is any agreement in which the operational control of an aircraft is transferred for short periods of time from one air carrier to another air carrier in which the latter air carrier assumes responsibility for the operation of the aircraft at the time of transfer.*

*The variety of different leasing arrangements entered into by an air carrier can have a significant impact on their maintenance, training, and operations programs and their overall safety. Consider the following when rating this indicator:*

- Determine the type of leasing arrangement the air carrier maintains. The air carrier may have a wet lease, dry lease, or interchange agreement in place with other entities.
- Consider whether the air carrier is structured and has systems, sub-systems, and elements designed to support the lease arrangements. If the carrier has chosen to enter into one or more leasing arrangement, determine the adequacy and effectiveness of the air carrier’s infrastructure to support these arrangements and their related oversight responsibilities. Consider the effect of the air carrier’s leasing arrangements on surveillance requirements.
- Consider the impacts of interchange agreement systems, sub-systems, and elements. Interchange agreements can have a major impact on normal carrier operations; therefore, special attention during surveillance may be warranted when an air carrier is a party to this type of arrangement.
- Consider the impact of lease agreements on the air carrier’s systems, sub-systems, and elements. Consider whether or not any special lease requirements have been integrated into the systems. Determine if the air carrier’s audit function has been enhanced to include any special considerations resulting from any of the air carrier’s leasing arrangements.

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Operational Stability</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		SPAS MANAGEMENT / ECONOMIC INDICATORS	CHANGE IN AIR CARRIER MANAGEMENT	TURNOVER IN PERSONNEL	REDUCTION IN WORKFORCE/ LAYOFFS/ BUY-OUTS	RAPID EXPANSION/ GROWTH	MERGER OR TAKEOVER	LABOR- MANAGEMENT RELATIONS		
	<b>1.0 AIRCRAFT CONFIGURATION CONTROL</b>										
	<b>1.1 Aircraft</b>										
High	1.1.1	Aircraft Airworthiness Requirements									
Medium	1.1.2	Appropriate Operational Equipment									
TBD	1.1.3	Special Flight Permits									
	<b>1.2 Records and Reporting Systems</b>										
High	1.2.1	Airworthiness Release or Log Book Entry									
Medium	1.2.2	Major Repairs and Alterations									
High	1.2.3	Maintenance Log/Recording Requirements									
Low	1.2.4	MIS Reports									
Low	1.2.5	Mechanical Reliability Reports (MRR)									
Low	1.2.6	Aircraft Listing									
	<b>1.3 Maintenance Organization</b>										
High	1.3.1	Maintenance Program									
High	1.3.2	Inspection Program									
High	1.3.3	Maintenance Facilities/Main Maintenance Base									
High	1.3.4	RII									
High	1.3.5	MEL/CDL/Deferred Maintenance									
High	1.3.6	AD Management									
High	1.3.7	Outsource Organization									
High	1.3.8	Control of Calibrated Tools and Test Equipment									
High	1.3.9	Engineering/Major Repairs and Alterations									

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Operational Stability</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		SPAS MANAGEMENT / ECONOMIC INDICATORS	CHANGE IN AIR CARRIER MANAGEMENT	TURNOVER IN PERSONNEL	REDUCTION IN WORKFORCE/ LAYOFFS/ BUY-OUTS	RAPID EXPANSION/ GROWTH	MERGER OR TAKEOVER	LABOR- MANAGEMENT RELATIONS		
High	1.3.10	Parts/Material Control/SUP									
High	1.3.11	Continuous Analysis and Surveillance (CAS)									
High	1.3.12	SFAR 36									
High	1.3.13	DAS									
Low	1.3.14	GMM/Equivalent									
Medium	1.3.15	Reliability Program									
Medium	1.3.16	Fueling									
High	1.3.17	Weight and Balance Program									
High	1.3.18	De-Icing Program									
Low	1.3.19	Lower Landing Minimums									
TBD	1.3.20	Engine Condition Monitoring									
TBD	1.3.21	Parts Pooling									
TBD	1.3.22	Parts Borrowing									
TBD	1.3.23	Short-term Escalations									
TBD	1.3.24	CASE									
	<b>2.0 MANUALS</b>										
	<b>2.1 Manual Management</b>										
Medium	2.1.1	Currency									
Medium	2.1.2	Content Consistency Across Manuals									
Medium	2.1.3	Distribution									
Medium	2.1.4	Availability									
Medium	2.1.5	Supplemental Operations Manual Requirements									

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Operational Stability</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		SPAS MANAGEMENT / ECONOMIC INDICATORS	CHANGE IN AIR CARRIER MANAGEMENT	TURNOVER IN PERSONNEL	REDUCTION IN WORKFORCE/ LAYOFFS/ BUY-OUTS	RAPID EXPANSION/ GROWTH	MERGER OR TAKEOVER	LABOR- MANAGEMENT RELATIONS		
	<b>4.0 PERSONNEL TRAINING AND QUALIFICATIONS</b>										
	<b>4.1 Maintenance Personnel Qualifications</b>										
High	4.1.1	RII Personnel									
Medium	4.1.2	Maintenance Certificate Requirements									
	<b>4.2 Training Program</b>										
High	4.2.1	Maintenance Training Program									
High	4.2.2	RII Training Requirements									
Low	4.2.8	Simulators/Training Devices									
	<b>4.4 Mechanics and Repairmen Certification</b>										
Low	4.4.1	Recency of Experience									
Low	4.4.2	Display of Certificate									
Low	4.4.3	Privileges - Airframe and Powerplant									
Low	4.4.4	Privileges and Limitations for Repairmen									
	<b>5.0 ROUTE STRUCTURES</b>										
	<b>5.1 Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	5.1.1	Line Stations (Servicing and Maintenance)									
Medium	5.1.2	Weather Reporting Facilities/SWARS Stations									
Medium	5.1.3	Non-Federal NAVAIDs									
Low	5.1.4	Altimeter Setting Sources									
TBD	5.1.8	ETOPS									
TBD	5.1.9	RVSM Authorization									

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Operational Stability</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		SPAS MANAGEMENT / ECONOMIC INDICATORS	CHANGE IN AIR CARRIER MANAGEMENT	TURNOVER IN PERSONNEL	REDUCTION IN WORKFORCE/ LAYOFFS/ BUY-OUTS	RAPID EXPANSION/ GROWTH	MERGER OR TAKEOVER	LABOR- MANAGEMENT RELATIONS		
	<b>6.0 AIRMAN AND CREWMEMBER FLIGHT, REST, AND DUTY TIME</b>										
	<b>6.2 Maintenance Personnel</b>										
Low	6.2.1	Duty Time									
	<b>7.0 TECHNICAL ADMINISTRATION</b>										
	<b>7.1 Key Personnel</b>										
Low	7.1.1	Director of Maintenance									
Low	7.1.2	Chief Inspector									
Low	7.1.3	Director of Safety									
Low	7.1.6	Maintenance Control									



AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS												
RISK INDICATORS FOR SYSTEM STABILITY												
Air Carrier Dynamics												
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		INSPECTION DEPARTMENT /SYSTEM	NEW/ MAJOR CHANGES TO PROGRAM	CAS SYSTEM	SAFETY SYSTEM	INTERNAL EVALUATION PROGRAM	BEST PRACTICES	RESOURCE MANAGE- MENT TRAINING	RISK MANAGE- MENT	COOPERATIVE RELATIONSHIP WITH FAA	HUMAN FACTORS
	1.0 AIRCRAFT CONFIGURATION CONTROL											
	1.1 Aircraft											
High	1.1.1	Aircraft Airworthiness Requirements										
Medium	1.1.2	Appropriate Operational Equipment										
TBD	1.1.3	Special Flight Permits										
	1.2 Records and Reporting Systems											
High	1.2.1	Airworthiness Release or Log Book Entry										
Medium	1.2.2	Major Repairs and Alterations										
High	1.2.3	Maintenance Log/Recording Requirements										
Low	1.2.4	MIS Reports										
Low	1.2.5	Mechanical Reliability Reports (MRR)										
Low	1.2.6	Aircraft Listing										
	1.3 Maintenance Organization											
High	1.3.1	Maintenance Program										
High	1.3.2	Inspection Program										
High	1.3.3	Maintenance Facilities/Main Maintenance Base										
High	1.3.4	RII										
High	1.3.5	MEL/CDL/Deferred Maintenance										
High	1.3.6	AD Management										
High	1.3.7	Outsource Organization										

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS												
RISK INDICATORS FOR SYSTEM STABILITY												
Air Carrier Dynamics												
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		INSPECTION DEPARTMENT /SYSTEM	NEW/ MAJOR CHANGES TO PROGRAM	CAS SYSTEM	SAFETY SYSTEM	INTERNAL EVALUATION PROGRAM	BEST PRACTICES	RESOURCE MANAGE- MENT TRAINING	RISK MANAGE- MENT	COOPERATIVE RELATIONSHIP WITH FAA	HUMAN FACTORS
High	1.3.8	Control of Calibrated Tools and Test Equipment										
High	1.3.9	Engineering/Major Repairs and Alterations										
High	1.3.10	Parts/Material Control/SUP										
High	1.3.11	Continuous Analysis and Surveillance (CAS)										
High	1.3.12	SFAR 36										
High	1.3.13	DAS										
Low	1.3.14	GMM/Equivalent										
Medium	1.3.15	Reliability Program										
Medium	1.3.16	Fueling										
High	1.3.17	Weight and Balance Program										
High	1.3.18	De-Icing Program										
Low	1.3.19	Lower Landing Minimums										
TBD	1.3.20	Engine Condition Monitoring										
TBD	1.3.21	Parts Pooling										
TBD	1.3.22	Parts Borrowing										
TBD	1.3.23	Short-term Escalations										
TBD	1.3.24	CASE										
	2.0      MANUALS											
	2.1      Manual Management											
Medium	2.1.1	Currency										
Medium	2.1.2	Content Consistency Across Manuals										
Medium	2.1.3	Distribution										
Medium	2.1.4	Availability										
Medium	2.1.5	Supplemental Operations Manual Requirements										

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Air Carrier Dynamics</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS	INSPECTION DEPARTMENT /SYSTEM	NEW/ MAJOR CHANGES TO PROGRAM	CAS SYSTEM	SAFETY SYSTEM	INTERNAL EVALUATION PROGRAM	BEST PRACTICES	RESOURCE MANAGE- MENT TRAINING	RISK MANAGE- MENT	COOPERATIVE RELATIONSHIP WITH FAA	HUMAN FACTORS
	<b>4.0 PERSONNEL TRAINING AND QUALIFICATIONS</b>										
	<b>4.1 Maintenance Personnel Qualifications</b>										
High	4.1.1 RII Personnel										
Medium	4.1.2 Maintenance Certificate Requirements										
	<b>4.2 Training Program</b>										
High	4.2.1 Maintenance Training Program										
High	4.2.2 RII Training Requirements										
Low	4.2.8 Simulators/Training Devices										
	<b>4.4 Mechanics and Repairmen Certification</b>										
Low	4.4.1 Recency of Experience										
Low	4.4.2 Display of Certificate										
Low	4.4.3 Privileges - Airframe and Powerplant										
Low	4.4.4 Privileges and Limitations for Repairmen										
	<b>5.0 ROUTE STRUCTURES</b>										
	<b>5.1 Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	5.1.1 Line Stations (Servicing and Maintenance)										
Medium	5.1.2 Weather Reporting Facilities/ SWARS Stations										
Medium	5.1.3 Non-Federal NAVAIDs										
Low	5.1.4 Altimeter Setting Sources										
TBD	5.1.8 ETOPS										
TBD	5.1.9 RVSM Authorization										

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Air Carrier Dynamics</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS	INSPECTION DEPARTMENT /SYSTEM	NEW/ MAJOR CHANGES TO PROGRAM	CAS SYSTEM	SAFETY SYSTEM	INTERNAL EVALUATION PROGRAM	BEST PRACTICES	RESOURCE MANAGE- MENT TRAINING	RISK MANAGE- MENT	COOPERATIVE RELATIONSHIP WITH FAA	HUMAN FACTORS
	<b>6.0</b>	<b>AIRMAN AND CREWMEMBER FLIGHT, REST, AND DUTY TIME</b>									
	<b>6.2</b>	<b>Maintenance Personnel</b>									
Low	6.2.1	Duty Time									
	<b>7.0</b>	<b>TECHNICAL ADMINISTRATION</b>									
	<b>7.1</b>	<b>Key Personnel</b>									
Low	7.1.1	Director of Maintenance									
Low	7.1.2	Chief Inspector									
Low	7.1.3	Director of Safety									
Low	7.1.6	Maintenance Control									

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Performance History</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		ENFORCEMENT ACTIONS	ACCIDENTS/ INCIDENTS/ OCCURRENCES	DoD/ RASIP	SELF- DISCLOSURES	SAFETY HOTLINE/ COMPLAINTS	NEW ENTRANT CARRIER	SPAS TREND INDICATORS		
	<b>1.0 AIRCRAFT CONFIGURATION CONTROL</b>										
	<b>1.1 Aircraft</b>										
High	1.1.1	Aircraft Airworthiness Requirements									
Medium	1.1.2	Appropriate Operational Equipment									
TBD	1.1.3	Special Flight Permits									
	<b>1.2 Records and Reporting Systems</b>										
High	1.2.1	Airworthiness Release or Log Book Entry									
Medium	1.2.2	Major Repairs and Alterations									
High	1.2.3	Maintenance Log/Recording Requirements									
Low	1.2.4	MIS Reports									
Low	1.2.5	Mechanical Reliability Reports (MRR)									
Low	1.2.6	Aircraft Listing									
	<b>1.3 Maintenance Organization</b>										
High	1.3.1	Maintenance Program									
High	1.3.2	Inspection Program									
High	1.3.3	Maintenance Facilities and Main Maintenance Base									
High	1.3.4	RII									
High	1.3.5	MEL/CDL/Deferred Maintenance									
High	1.3.6	AD Management									
High	1.3.7	Outsource Organization									
High	1.3.8	Control of Calibrated Tools and Test Equipment									
High	1.3.9	Engineering/Major Repairs and Alterations									
High	1.3.10	Parts/Material Control/SUP									
High	1.3.11	Continuous Analysis and Surveillance (CAS)									
High	1.3.12	SFAR 36									

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Performance History</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		ENFORCEMENT ACTIONS	ACCIDENTS/ INCIDENTS/ OCCURRENCES	DoD/ RASIP	SELF- DISCLOSURES	SAFETY HOTLINE/ COMPLAINTS	NEW ENTRANT CARRIER	SPAS TREND INDICATORS		
High	1.3.13	DAS									
Low	1.3.14	GMM/Equivalent									
Medium	1.3.15	Reliability Program									
Medium	1.3.16	Fueling									
High	1.3.17	Weight and Balance Program									
High	1.3.18	De-Icing Program									
Low	1.3.19	Lower Landing Minimums									
TBD	1.3.20	Engine Condition Monitoring									
TBD	1.3.21	Parts Pooling									
TBD	1.3.22	Parts Borrowing									
TBD	1.3.23	Short-term Escalations									
TBD	1.3.24	CASE									
	<b>2.0 MANUALS</b>										
	<b>2.1 Manual Management</b>										
Medium	2.1.1	Currency									
Medium	2.1.2	Content Consistency Across Manuals									
Medium	2.1.3	Distribution									
Medium	2.1.4	Availability									
Medium	2.1.5	Supplemental Operations Manual Requirements									
	<b>4.0 PERSONNEL TRAINING AND QUALIFICATIONS</b>										
	<b>4.1 Maintenance Personnel Qualifications</b>										
High	4.1.1	RII Personnel									
Medium	4.1.2	Maintenance Certificate Requirements									
	<b>4.2 Training Program</b>										
High	4.2.1	Maintenance Training Program									
High	4.2.2	RII Training Requirements									
Low	4.2.8	Simulators/Training Devices									

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Performance History</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		ENFORCEMENT ACTIONS	ACCIDENTS/ INCIDENTS/ OCCURRENCES	DoD/ RASIP	SELF- DISCLOSURES	SAFETY HOTLINE/ COMPLAINTS	NEW ENTRANT CARRIER	SPAS TREND INDICATORS		
	<b>4.4 Mechanics and Repairmen Certification</b>										
Low	4.4.1	Recency of Experience									
Low	4.4.2	Display of Certificate									
Low	4.4.3	Privileges - Airframe and Powerplant									
Low	4.4.4	Privileges and Limitations for Repairmen									
	<b>5.0 ROUTE STRUCTURES</b>										
	<b>5.1 Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	5.1.1	Line Stations (Servicing and Maintenance)									
Medium	5.1.2	Weather Reporting Facilities/SWARS Stations									
Medium	5.1.3	Non-Federal NAVAIDs									
Low	5.1.4	Altimeter Setting Sources									
TBD	5.1.8	ETOPS									
TBD	5.1.9	RVSM Authorization									
	<b>6.0 AIRMAN AND CREWMEMBER FLIGHT, REST, AND DUTY TIME</b>										
	<b>6.2 Maintenance Personnel</b>										
Low	6.2.1	Duty Time									
	<b>7.0 TECHNICAL ADMINISTRATION</b>										
	<b>7.1 Key Personnel</b>										
Low	7.1.1	Director of Maintenance									
Low	7.1.2	Chief Inspector									
Low	7.1.3	Director of Safety									
Low	7.1.6	Maintenance Control									

<b>AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS</b> <b>RISK INDICATORS FOR OPERATIONAL RISKS</b> <i>Environmental Criticality</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		AGE OF FLEET	VARIED FLEET MIX	COMPLEXITY OF AIRCRAFT	OUTSOURCE (M, T, GH)	SEASONAL OPERATIONS	RELOCATION/ CLOSING OF FACILITIES	LEASE ARRANGEMENT		
	<b>1.0 AIRCRAFT CONFIGURATION CONTROL</b>										
	<b>1.1 Aircraft</b>										
High	1.1.1	Aircraft Airworthiness Requirements									
Medium	1.1.2	Appropriate Operational Equipment									
TBD	1.1.3	Special Flight Permits									
	<b>1.2 Records and Reporting Systems</b>										
High	1.2.1	Airworthiness Release or Log Book Entry									
Medium	1.2.2	Major Repairs and Alterations									
High	1.2.3	Maintenance Log/Recording Requirements									
Low	1.2.4	MIS Reports									
Low	1.2.5	Mechanical Reliability Reports (MRR)									
Low	1.2.6	Aircraft Listing									
	<b>1.3 Maintenance Organization</b>										
High	1.3.1	Maintenance Program									
High	1.3.2	Inspection Program									
High	1.3.3	Maintenance Facilities/Main Maintenance Base									
High	1.3.4	RII									
High	1.3.5	MEL/CDL/Deferred Maintenance									
High	1.3.6	AD Management									
High	1.3.7	Outsource Organization									
High	1.3.8	Control of Calibrated Tools and Test Equipment									
High	1.3.9	Engineering/Major Repairs and Alterations									
High	1.3.10	Parts/Material Control/SUP									
High	1.3.11	Continuous Analysis and Surveillance (CAS)									
High	1.3.12	SFAR 36									



AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Environmental Criticality</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		AGE OF FLEET	VARIED FLEET MIX	COMPLEXITY OF AIRCRAFT	OUTSOURCE (M, T, GH)	SEASONAL OPERATIONS	RELOCATION/ CLOSING OF FACILITIES	LEASE ARRANGEMENT		
High	1.3.13	DAS									
Low	1.3.14	GMM/Equivalent									
Medium	1.3.15	Reliability Program									
Medium	1.3.16	Fueling									
High	1.3.17	Weight and Balance Program									
High	1.3.18	De-Icing Program									
Low	1.3.19	Lower Landing Minimums									
TBD	1.3.20	Engine Condition Monitoring									
TBD	1.3.21	Parts Pooling									
TBD	1.3.22	Parts Borrowing									
TBD	1.3.23	Short-term Escalations									
TBD	1.3.24	CASE									
	2.0	MANUALS									
	2.1	Manual Management									
Medium	2.1.1	Currency									
Medium	2.1.2	Content Consistency Across Manuals									
Medium	2.1.3	Distribution									
Medium	2.1.4	Availability									
Medium	2.1.5	Supplemental Operations Manual Requirements									
	4.0	PERSONNEL TRAINING AND QUALIFICATIONS									
	4.1	Maintenance Personnel Qualifications									
High	4.1.1	RII Personnel									
Medium	4.1.2	Maintenance Certificate Requirements									
	4.2	Training Program									
High	4.2.1	Maintenance Training Program									
High	4.2.2	RII Training Requirements									
Low	4.2.8	Simulators/Training Devices									

AIR CARRIER ASSESSMENT TOOL - AIRWORTHINESS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Environmental Criticality</i>											
CRITICALITY BASELINE	AIRWORTHINESS ELEMENTS		AGE OF FLEET	VARIED FLEET MIX	COMPLEXITY OF AIRCRAFT	OUTSOURCE (M, T, GH)	SEASONAL OPERATIONS	RELOCATION/ CLOSING OF FACILITIES	LEASE ARRANGEMENT		
	<b>4.4 Mechanics and Repairmen Certification</b>										
Low	4.4.1	Recency of Experience									
Low	4.4.2	Display of Certificate									
Low	4.4.3	Privileges - Airframe and Powerplant									
Low	4.4.4	Privileges and Limitations for Repairmen									
	<b>5.0 ROUTE STRUCTURES</b>										
	<b>5.1 Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	5.1.1	Line Stations (Servicing and Maintenance)									
Medium	5.1.2	Weather Reporting Facilities/ SWARS Stations									
Medium	5.1.3	Non-Federal NAVAIDS									
Low	5.1.4	Altimeter Setting Sources									
TBD	5.1.8	ETOPS									
TBD	5.1.9	RVSM Authorization									
	<b>6.0 AIRMAN AND CREWMEMBER FLIGHT, REST, AND DUTY TIME</b>										
	<b>6.2 Maintenance Personnel</b>										
Low	6.2.1	Duty Time									
	<b>7.0 TECHNICAL ADMINISTRATION</b>										
	<b>7.1 Key Personnel</b>										
Low	7.1.1	Director of Maintenance									
Low	7.1.2	Chief Inspector									
Low	7.1.3	Director of Safety									
Low	7.1.6	Maintenance Control									

**AIRWORTHINESS**  
**AIR CARRIER ASSESSMENT TOOL RESULTS**

**Air Carrier:** \_\_\_\_\_  
**Principal Maintenance**  
**Inspector:** \_\_\_\_\_  
**Principal Avionics Inspector:** \_\_\_\_\_

**Assessment Year:** \_\_\_\_\_  
**CHDO/CMO:** \_\_\_\_\_  
**Air Carrier Designator:** \_\_\_\_\_

AIRWORTHINESS ELEMENTS		ASSESSMENT ACTUAL					PERCENTAGE	ASSESSMENT VALUE	CRITICALITY WEIGHT	WEIGHTED PERCENTAGE
		OS	CD	PH	EC	Total				
1.1.1	Aircraft Airworthiness Requirements					31			3	
1.1.3	Special Flight Permits					31			TBD	
1.1.2	Appropriate Operational Equipment					31			2	
<b>Aircraft Sub-System Weighted Percentage Average</b>										
1.2.1	Airworthiness Release or Log Book Entry					31			3	
1.2.2	Major Repairs and Alterations					31			2	
1.2.3	Maintenance Log/Recording Requirements					31			3	
1.2.4	MIS Reports					31			1	
1.2.5	Mechanical Reliability Reports (MRR)					31			1	
1.2.6	Aircraft Listing					31			1	
<b>Records and Reporting Systems Sub-System Weighted Percentage Average</b>										
1.3.1	Maintenance Program					31			3	
1.3.2	Inspection Program					31			3	
1.3.3	Maintenance Facilities/Main Maintenance Base					31			3	
1.3.4	RII					31			3	
1.3.5	MEL/CDL/Deferred Maintenance					31			3	
1.3.6	AD Management					31			3	
1.3.7	Outsource Organization					31			3	
1.3.8	Control of Calibrated Tools and Test Equipment					31			3	
1.3.9	Engineering/Major Repairs and Alterations					31			3	
1.3.10	Parts/Material Control/SUP					31			3	
1.3.11	Continuous Analysis and Surveillance (CAS)					31			3	

AIRWORTHINESS ELEMENTS		ASSESSMENT ACTUAL					PERCENTAGE	ASSESSMENT VALUE	CRITICALITY WEIGHT	WEIGHTED PERCENTAGE
		OS	CD	PH	EC	Total				
1.3.12	SFAR 36					31			3	
1.3.13	DAS					31			3	
1.3.14	GMM/Equivalent					31			1	
1.3.15	Reliability Program					31			2	
1.3.16	Fueling					31			2	
1.3.17	Weight and Balance Program					31			3	
1.3.18	De-Icing Program					31			3	
1.3.19	Lower Landing Minimums					31			1	
1.3.20	Engine Condition Monitoring					31			TBD	
1.3.21	Parts Pooling					31			TBD	
1.3.22	Parts Borrowing					31			TBD	
1.3.23	Short-term Escalations					31			TBD	
1.3.24	CASE					31			TBD	
Maintenance Organization Sub-System Weighted Percentage Average										
2.1.1	Currency					31			2	
2.1.2	Content Consistency Across Manuals					31			2	
2.1.3	Distribution					31			2	
2.1.4	Availability					31			2	
2.1.5	Supplemental Operations Manual Requirements					31			2	
Manual Management Sub-System Weighted Percentage Average										
4.1.1	RII Personnel					31			3	
4.1.2	Maintenance Certificate Requirements					31			2	
Maintenance Personnel Qualifications Sub-System Weighted Percentage Average										
4.2.1	Maintenance Training Program					31			3	
4.2.2	RII Training Requirements					31			3	
4.2.8	Simulators/Training Devices					31			1	
Training Program Sub-System Weighted Percentage Average										
4.4.1	Recency of Experience					31			1	
4.4.2	Display of Certificate					31			1	

AIRWORTHINESS ELEMENTS		ASSESSMENT ACTUAL					PERCENTAGE	ASSESSMENT VALUE	CRITICALITY WEIGHT	WEIGHTED PERCENTAGE
		OS	CD	PH	EC	Total				
4.4.3	Privileges - Airframe and Powerplant					31			1	
4.4.4	Privileges and Limitations for Repairmen					31			1	
<b>Mechanics and Repairmen Certification Sub-System Weighted Percentage Average</b>										
5.1.1	Line Stations (Servicing and Maintenance)					31			2	
5.1.2	Weather Reporting Facilities/SWARS Stations					31			2	
5.1.3	Non-Federal NAVAIDs					31			2	
5.1.4	Altimeter Setting Sources					31			1	
5.1.8	ETOPS					31			TBD	
5.1.9	RVSM Authorization					31			TBD	
<b>Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial Sub-System Weighted Percentage Average</b>										
6.2.1	Duty Time					31			1	
<b>Maintenance Personnel Sub-System Weighted Percentage Average</b>										
7.1.1	Director of Maintenance					31			1	
7.1.2	Chief Inspector					31			1	
7.1.3	Director of Safety					31			1	
7.1.6	Maintenance Control					31			1	
<b>Key Personnel Sub-System Weighted Percentage Average</b>										
<b>TOTAL AIRWORTHINESS RESULT</b>										

Principal Maintenance Inspector: \_\_\_\_\_ Date: \_\_\_\_\_  
Principal Avionics Inspector: \_\_\_\_\_ Date: \_\_\_\_\_

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Operational Stability</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		SPAS MANAGEMENT /ECONOMIC INDICATORS	CHANGE IN AIR CARRIER MANAGEMENT	TURNOVER IN PERSONNEL	REDUCTION IN WORKFORCE/ LAYOFFS/ BUY-OUTS	RAPID EXPANSION/ GROWTH	MERGER OR TAKEOVER	LABOR- MANAGEMENT RELATIONS		
	<b>1.0 AIRCRAFT CONFIGURATION CONTROL</b>										
	<b>1.1 Aircraft</b>										
Medium	1.1.2	Appropriate Operational Equipment									
	<b>2.0 MANUALS</b>										
	<b>2.1 Manual Management</b>										
Medium	2.1.1	Currency									
Medium	2.1.2	Content Consistency Across Manuals									
Medium	2.1.3	Distribution									
Medium	2.1.4	Availability									
Medium	2.1.5	Supplemental Operations Manual Requirements									
	<b>3.0 FLIGHT OPERATIONS</b>										
	<b>3.1 Air Carrier Programs and Procedures</b>										
Medium	3.1.1	Passenger Handling									
Medium	3.1.2	Flight Attendant Duties/Cabin Procedures									
High	3.1.3	Airman Duties/Flight Deck Procedures									
Medium	3.1.4	Operational Control									
Medium	3.1.5	Carry-On Baggage									
Medium	3.1.6	Exit Seating									
High	3.1.7	De-Icing Program									
High	3.1.8	Carriage of Cargo									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Operational Stability</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		SPAS MANAGEMENT /ECONOMIC INDICATORS	CHANGE IN AIR CARRIER MANAGEMENT	TURNOVER IN PERSONNEL	REDUCTION IN WORKFORCE/ LAYOFFS/ BUY-OUTS	RAPID EXPANSION/ GROWTH	MERGER OR TAKEOVER	LABOR- MANAGEMENT RELATIONS		
High	3.1.9	Aircraft Performance Operating Limitations									
Low	3.1.10	Lower Landing Minimums									
TBD	3.1.11	Computer Based Record Keeping									
TBD	3.1.12	HAZMAT / Dangerous Goods Program									
TBD	3.1.13	Other Personnel with Operational Control									
	<b>3.2</b>	<b>Operational Release</b>									
High	3.2.1	Dispatch or Flight Release									
High	3.2.2	Flight/Load Manifest/Weight and Balance Control									
High	3.2.3	MEL/CDL Procedures									
	<b>4.0</b>	<b>PERSONNEL TRAINING AND QUALIFICATIONS</b>									
	<b>4.2</b>	<b>Training Program</b>									
High	4.2.3	Training of Flight Crewmembers									
High	4.2.4	Training of Flight Attendants									
High	4.2.5	Training of Dispatcher									
High	4.2.6	Training of Station Personnel									
High	4.2.7	Training of Check Airman and Instructors									
High	4.2.8	Simulators/Training Devices									
High	4.2.9	Outsource Crewmember Training									
TBD	4.2.10	Aircrew Designated Examiner									
TBD	4.2.11	Training of Flight Followers									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR SYSTEM STABILITY											
Operational Stability											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		SPAS MANAGEMENT /ECONOMIC INDICATORS	CHANGE IN AIR CARRIER MANAGEMENT	TURNOVER IN PERSONNEL	REDUCTION IN WORKFORCE/ LAYOFFS/ BUY-OUTS	RAPID EXPANSION/ GROWTH	MERGER OR TAKEOVER	LABOR- MANAGEMENT RELATIONS		
	<b>4.3 Crewmember and Dispatch Qualifications</b>										
Medium	4.3.1	Pilot Operating Limitations/Recent Experience									
Medium	4.3.2	Appropriate Airman/Crewmember Checks and Qualifications									
TBD	4.3.3	Advanced Qualification Program (AQP)									
	<b>5.0 ROUTE STRUCTURES</b>										
	<b>5.1 Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	5.1.5	Station Facilities									
Low	5.1.6	Use of Approved Routes, Areas, & Airports									
TBD	5.1.7	Special Navigation Areas of Operation									
TBD	5.1.8	ETOPS									
TBD	5.1.9	RVSM Authorization									
	<b>6.0 AIRMAN AND CREWMEMBER FLIGHT, REST, AND DUTY TIME</b>										
	<b>6.1 Airman and Crewmember Limitations for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	6.1.1	Scheduling/Reporting System									
Medium	6.1.2	Flight Crewmember Flight/Duty/Rest Time									
Medium	6.1.3	Flight Attendant Duty/Rest Time									
Medium	6.1.4	Dispatcher Duty/Rest Time									



AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Operational Stability</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		SPAS MANAGEMENT /ECONOMIC INDICATORS	CHANGE IN AIR CARRIER MANAGEMENT	TURNOVER IN PERSONNEL	REDUCTION IN WORKFORCE/ LAYOFFS/ BUY-OUTS	RAPID EXPANSION/ GROWTH	MERGER OR TAKEOVER	LABOR- MANAGEMENT RELATIONS		
	<b>7.0 TECHNICAL ADMINISTRATION</b>										
	<b>7.1 Key Personnel</b>										
Low	7.1.3	Director of Safety									
Low	7.1.4	Director of Operations									
Low	7.1.5	Chief Pilot									
	<b>7.2 Other Programs</b>										
TBD	7.2.1	Safety Program (Ground and Flight)									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Air Carrier Dynamics</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		NEW/ MAJOR CHANGES TO PROGRAM	SAFETY SYSTEM	INTERNAL EVALUATION PROGRAM	BEST PRACTICES	RESOURCE MANAGE- MENT TRAINING	RISK MANAGE- MENT	COOPERATIVE RELATIONSHIP WITH FAA	HUMAN FACTORS	
	<b>1.0 AIRCRAFT CONFIGURATION CONTROL</b>										
	<b>1.1 Aircraft</b>										
Medium	1.1.2	Appropriate Operational Equipment									
	<b>2.0 MANUALS</b>										
	<b>2.1 Manual Management</b>										
Medium	2.1.1	Currency									
Medium	2.1.2	Content Consistency Across Manuals									
Medium	2.1.3	Distribution									
Medium	2.1.4	Availability									
Medium	2.1.5	Supplemental Operations Manual Requirements									
	<b>3.0 FLIGHT OPERATIONS</b>										
	<b>3.1 Air Carrier Programs and Procedures</b>										
Medium	3.1.1	Passenger Handling									
Medium	3.1.2	Flight Attendant Duties/Cabin Procedures									
High	3.1.3	Airman Duties/Flight Deck Procedures									
Medium	3.1.4	Operational Control									
Medium	3.1.5	Carry-On Baggage									
Medium	3.1.6	Exit Seating									
High	3.1.7	De-Icing Program									
High	3.1.8	Carriage of Cargo									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Air Carrier Dynamics</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		NEW/ MAJOR CHANGES TO PROGRAM	SAFETY SYSTEM	INTERNAL EVALUATION PROGRAM	BEST PRACTICES	RESOURCE MANAGE- MENT TRAINING	RISK MANAGE- MENT	COOPERATIVE RELATIONSHIP WITH FAA	HUMAN FACTORS	
High	3.1.9	Aircraft Performance Operating Limitations									
Low	3.1.10	Lower Landing Minimums									
TBD	3.1.11	Computer Based Record Keeping									
TBD	3.1.12	HAZMAT / Dangerous Goods Program									
TBD	3.1.13	Other Personnel with Operational Control									
	<b>3.2</b>	<b>Operational Release</b>									
High	3.2.1	Dispatch or Flight Release									
High	3.2.2	Flight/Load Manifest/Weight and Balance Control									
High	3.2.3	MEL/CDL Procedures									
	<b>4.0</b>	<b>PERSONNEL TRAINING AND QUALIFICATIONS</b>									
	<b>4.2</b>	<b>Training Program</b>									
High	4.2.3	Training of Flight Crewmembers									
High	4.2.4	Training of Flight Attendants									
High	4.2.5	Training of Dispatcher									
High	4.2.6	Training of Station Personnel									
High	4.2.7	Training of Check Airman and Instructors									
High	4.2.8	Simulators/Training Devices									
High	4.2.9	Outsource Crewmember Training									
TBD	4.2.10	Aircrew Designated Examiner									
TBD	4.2.11	Training of Flight Followers									
	<b>4.3</b>	<b>Crewmember and Dispatch Qualifications</b>									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS												
RISK INDICATORS FOR SYSTEM STABILITY												
<i>Air Carrier Dynamics</i>												
CRITICALITY BASELINE	OPERATIONS ELEMENTS		NEW/ MAJOR CHANGES TO PROGRAM	SAFETY SYSTEM	INTERNAL EVALUATION PROGRAM	BEST PRACTICES	RESOURCE MANAGE- MENT TRAINING	RISK MANAGE- MENT	COOPERATIVE RELATIONSHIP WITH FAA	HUMAN FACTORS		
Medium	4.3.1	Pilot Operating Limitations/Recent Experience										
Medium	4.3.2	Appropriate Airman/Crewmember Checks and Qualifications										
TBD	4.3.3	Advanced Qualification Program (AQP)										
	<b>5.0 ROUTE STRUCTURES</b>											
	<b>5.1 Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial</b>											
Medium	5.1.5	Station Facilities										
Low	5.1.6	Use of Approved Routes, Areas, & Airports										
TBD	5.1.7	Special Navigation Areas of Operation										
TBD	5.1.8	ETOPS										
TBD	5.1.9	RVSM Authorization										
	<b>6.0 AIRMAN AND CREW MEMBER FLIGHT REST AND DUTY TIME</b>											
	<b>6.1 Airman and Crewmember Limitations for Domestic, Flag, Supplemental, and Commercial</b>											
Medium	6.1.1	Scheduling/Reporting System										
Medium	6.1.2	Flight Crewmember Flight/Duty/Rest Time										
Medium	6.1.3	Flight Attendant Duty/Rest Time										
Medium	6.1.4	Dispatcher Duty/Rest Time										
	<b>7.0 TECHNICAL ADMINISTRATION</b>											
	<b>7.1 Key Personnel</b>											
Low	7.1.3	Director of Safety										
Low	7.1.4	Director of Operations										
Low	7.1.5	Chief Pilot										

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR SYSTEM STABILITY											
<i>Air Carrier Dynamics</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		NEW/ MAJOR CHANGES TO PROGRAM	SAFETY SYSTEM	INTERNAL EVALUATION PROGRAM	BEST PRACTICES	RESOURCE MANAGE- MENT TRAINING	RISK MANAGE- MENT	COOPERATIVE RELATIONSHIP WITH FAA	HUMAN FACTORS	
	<b>7.2 Other Programs</b>										
TBD	7.2.1	Safety Program (Ground and Flight)									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Performance History</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS	ENFORCEMENT ACTIONS	ACCIDENTS/ INCIDENTS/ OCCURRENCES	DoD/ RASIP	SELF- DISCLOSURES	SAFETY HOTLINE/ COMPLAINTS	NEW ENTRANT CARRIER	SPAS TREND INDICATORS			
	<b>1.0 AIRCRAFT CONFIGURATION CONTROL</b>										
	<b>1.1 Aircraft</b>										
Medium	1.1.2	Appropriate Operational Equipment									
	<b>2.0 MANUALS</b>										
	<b>2.1 Manual Management</b>										
Medium	2.1.1	Currency									
Medium	2.1.2	Content Consistency Across Manuals									
Medium	2.1.3	Distribution									
Medium	2.1.4	Availability									
Medium	2.1.5	Supplemental Operations Manual Requirements									
	<b>3.0 FLIGHT OPERATIONS</b>										
	<b>3.1 Air Carrier Programs and Procedures</b>										
Medium	3.1.1	Passenger Handling									
Medium	3.1.2	Flight Attendant Duties/Cabin Procedures									
High	3.1.3	Airman Duties/Flight Deck Procedures									
Medium	3.1.4	Operational Control									
Medium	3.1.5	Carry-On Baggage									
Medium	3.1.6	Exit Seating									
High	3.1.7	De-Icing Program									
High	3.1.8	Carriage of Cargo									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR OPERATIONAL RISKS											
Performance History											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		ENFORCEMENT ACTIONS	ACCIDENTS/ INCIDENTS/ OCCURRENCES	DoD/ RASIP	SELF- DISCLOSURES	SAFETY HOTLINE/ COMPLAINTS	NEW ENTRANT CARRIER	SPAS TREND INDICATORS		
High	3.1.9	Aircraft Performance Operating Limitations									
Low	3.1.10	Lower Landing Minimums									
TBD	3.1.11	Computer Based Record Keeping									
TBD	3.1.12	HAZMAT / Dangerous Goods Program									
TBD	3.1.13	Other Personnel with Operational Control									
	<b>3.2</b>	<b>Operational Release</b>									
High	3.2.1	Dispatch or Flight Release									
High	3.2.2	Flight/Load Manifest/Weight and Balance Control									
High	3.2.3	MEL/CDL Procedures									
	<b>4.0</b>	<b>PERSONNEL TRAINING AND QUALIFICATIONS</b>									
	<b>4.2</b>	<b>Training Program</b>									
High	4.2.3	Training of Flight Crewmembers									
High	4.2.4	Training of Flight Attendants									
High	4.2.5	Training of Dispatcher									
High	4.2.6	Training of Station Personnel									
High	4.2.7	Training of Check Airman and Instructors									
High	4.2.8	Simulators/Training Devices									
High	4.2.9	Outsource Crewmember Training									
TBD	4.2.10	Aircrew Designated Examiner									
TBD	4.2.11	Training of Flight Followers									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR OPERATIONAL RISKS											
Performance History											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		ENFORCEMENT ACTIONS	ACCIDENTS/ INCIDENTS/ OCCURRENCES	DoD/ RASIP	SELF- DISCLOSURES	SAFETY HOTLINE/ COMPLAINTS	NEW ENTRANT CARRIER	SPAS TREND INDICATORS		
	<b>4.3      Crewmember and Dispatch Qualifications</b>										
Medium	4.3.1	Pilot Operating Limitations/Recent Experience									
Medium	4.3.2	Appropriate Airman/Crewmember Checks and Qualifications									
TBD	4.3.3	Advanced Qualification Program (AQP)									
	<b>5.0      ROUTE STRUCTURES</b>										
	<b>5.1      Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	5.1.5	Station Facilities									
Low	5.1.6	Use of Approved Routes, Areas, & Airports									
TBD	5.1.7	Special Navigation Areas of Operation									
TBD	5.1.8	ETOPS									
TBD	5.1.9	RVSM Authorization									
	<b>6.0      AIRMAN AND CREWMEMBER FLIGHT, REST, AND DUTY TIME</b>										
	<b>6.1      Airman and Crewmember Limitations for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	6.1.1	Scheduling/Reporting System									
Medium	6.1.2	Flight Crewmember Flight/Duty/Rest Time									
Medium	6.1.3	Flight Attendant Duty/Rest Time									
Medium	6.1.4	Dispatcher Duty/Rest Time									
	<b>7.0      TECHNICAL ADMINISTRATION</b>										
	<b>7.1      Key Personnel</b>										
Low	7.1.3	Director of Safety									



AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Performance History</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		ENFORCEMENT ACTIONS	ACCIDENTS/ INCIDENTS/ OCCURRENCES	DoD/ RASIP	SELF- DISCLOSURES	SAFETY HOTLINE/ COMPLAINTS	NEW ENTRANT CARRIER	SPAS TREND INDICATORS		
Low	7.1.4	Director of Operations									
Low	7.1.5	Chief Pilot									
	7.2	<b>Other Programs</b>									
TBD	7.2.1	Safety Program (Ground and Flight)									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Environmental Criticality</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		AGE OF FLEET	VARIED FLEET MIX	COMPLEXITY OF AIRCRAFT	OUTSOURCE (M, T, GH)	SEASONAL OPERATIONS	RELOCATION/ CLOSING OF FACILITIES	LEASE ARRANGEMENT		
	1.0	<b>AIRCRAFT CONFIGURATION CONTROL</b>									
	1.1	<b>Aircraft</b>									
Medium	1.1.2	Appropriate Operational Equipment									
	2.0	<b>MANUALS</b>									
	2.1	<b>Manual Management</b>									
Medium	2.1.1	Currency									
Medium	2.1.2	Content Consistency Across Manuals									
Medium	2.1.3	Distribution									
Medium	2.1.4	Availability									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Environmental Criticality</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		AGE OF FLEET	VARIED FLEET MIX	COMPLEXITY OF AIRCRAFT	OUTSOURCE (M, T, GH)	SEASONAL OPERATIONS	RELOCATION/ CLOSING OF FACILITIES	LEASE ARRANGEMENT		
Medium	2.1.5	Supplemental Operations Manual Requirements									
	<b>3.0 FLIGHT OPERATIONS</b>										
	<b>3.1 Air Carrier Programs and Procedures</b>										
Medium	3.1.1	Passenger Handling									
Medium	3.1.2	Flight Attendant Duties/Cabin Procedures									
High	3.1.3	Airman Duties/Flight Deck Procedures									
Medium	3.1.4	Operational Control									
Medium	3.1.5	Carry-On Baggage									
Medium	3.1.6	Exit Seating									
High	3.1.7	De-Icing Program									
High	3.1.8	Carriage of Cargo									
High	3.1.9	Aircraft Performance Operating Limitations									
Low	3.1.10	Lower Landing Minimums									
TBD	3.1.11	Computer Based Record Keeping									
TBD	3.1.12	HAZMAT / Dangerous Goods Program									
TBD	3.1.13	Other Personnel with Operational Control									
	<b>3.2 Operational Release</b>										
High	3.2.1	Dispatch or Flight Release									
High	3.2.2	Flight/Load Manifest/Weight and Balance Control									
High	3.2.3	MEL/CDL Procedures									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Environmental Criticality</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		AGE OF FLEET	VARIED FLEET MIX	COMPLEXITY OF AIRCRAFT	OUTSOURCE (M, T, GH)	SEASONAL OPERATIONS	RELOCATION/ CLOSING OF FACILITIES	LEASE ARRANGEMENT		
	<b>4.0 PERSONNEL TRAINING AND QUALIFICATIONS</b>										
	<b>4.2 Training Program</b>										
High	4.2.3	Training of Flight Crewmembers									
High	4.2.4	Training of Flight Attendants									
High	4.2.5	Training of Dispatcher									
High	4.2.6	Training of Station Personnel									
High	4.2.7	Training of Check Airman and Instructors									
High	4.2.8	Simulators/Training Devices									
High	4.2.9	Outsource Crewmember Training									
TBD	4.2.10	Aircrew Designated Examiner									
TBD	4.2.11	Training of Flight Followers									
	<b>4.3 Crewmember and Dispatch Qualifications</b>										
Medium	4.3.1	Pilot Operating Limitations/Recent Experience									
Medium	4.3.2	Appropriate Airman/Crewmember Checks and Qualifications									
TBD	4.3.3	Advanced Qualification Program (AQP)									
	<b>5.0 ROUTE STRUCTURES</b>										
	<b>5.1 Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	5.1.5	Station Facilities									
Low	5.1.6	Use of Approved Routes, Areas, & Airports									
TBD	5.1.7	Special Navigation Areas of Operation									
TBD	5.1.8	ETOPS									

AIR CARRIER ASSESSMENT TOOL - OPERATIONS											
RISK INDICATORS FOR OPERATIONAL RISKS											
<i>Environmental Criticality</i>											
CRITICALITY BASELINE	OPERATIONS ELEMENTS		AGE OF FLEET	VARIED FLEET MIX	COMPLEXITY OF AIRCRAFT	OUTSOURCE (M, T, GH)	SEASONAL OPERATIONS	RELOCATION/ CLOSING OF FACILITIES	LEASE ARRANGEMENT		
TBD	5.1.9	RVSM Authorization									
	<b>6.0 AIRMAN AND CREWMEMBER FLIGHT, REST, AND DUTY TIME</b>										
	<b>6.1 Airman and Crewmember Limitations for Domestic, Flag, Supplemental, and Commercial</b>										
Medium	6.1.1	Scheduling/Reporting System									
Medium	6.1.2	Flight Crewmember Flight/Duty/Rest Time									
Medium	6.1.3	Flight Attendant Duty/Rest Time									
Medium	6.1.4	Dispatcher Duty/Rest Time									
	<b>7.0 TECHNICAL ADMINISTRATION</b>										
	<b>7.1 Key Personnel</b>										
Low	7.1.3	Director of Safety									
Low	7.1.4	Director of Operations									
Low	7.1.5	Chief Pilot									
	<b>7.2 Other Programs</b>										
TBD	7.2.1	Safety Program (Ground and Flight)									

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Appendix 6

**OPERATIONS**  
**AIR CARRIER ASSESSMENT TOOL RESULTS**

**Air Carrier:** \_\_\_\_\_  
**Principal Operations Inspector:** \_\_\_\_\_  
**Cabin Safety Inspector:** \_\_\_\_\_

**Assessment Year:** \_\_\_\_\_  
**CHDO/CMO:** \_\_\_\_\_  
**Air Carrier Designator:** \_\_\_\_\_

OPERATIONS ELEMENTS	ASSESSMENT ACTUAL						PERCENTAGE	ASSESSMENT VALUE	CRITICALITY WEIGHT	WEIGHTED PERCENTAGE
	OS	CD	PH	EC	Total	Total Possible				
1.1.2 Appropriate Operational Equipment						29			2	
<b>Aircraft Sub-System Weighted Percentage Average</b>										
2.1.1 Currency						29			2	
2.1.2 Content Consistency Across Manuals						29			2	
2.1.3 Distribution						29			2	
2.1.4 Availability						29			2	
2.1.5 Supplemental Operations Manual Requirements						29			2	
<b>Manual Management Sub-System Weighted Percentage Average</b>										
3.1.1 Passenger Handling						29			2	
3.1.2 Flight Attendant Duties/Cabin Procedures						29			2	
3.1.3 Airman Duties/Flight Deck Procedures						29			3	
3.1.4 Operational Control						29			2	
3.1.5 Carry-On Baggage						29			2	
3.1.6 Exit Seating						29			2	
3.1.7 De-Icing Program						29			3	

OPERATIONS ELEMENTS	ASSESSMENT ACTUAL						PERCENTAGE	ASSESSMENT VALUE	CRITICALITY WEIGHT	WEIGHTED PERCENTAGE
	OS	CD	PH	EC	Total	Total Possible				
3.1.8 Carriage of Cargo						29			3	
3.1.9 Aircraft Performance Operating Limitations						29			3	
3.1.10 Lower Landing Minimums						29			1	
3.1.11 Computer Based Record Keeping						29			TBD	
3.1.12 HAZMAT / Dangerous Goods Program						29			TBD	
3.1.13 Other Personnel with Operational Control						29			TBD	
<b>Air Carrier Programs and Procedures Sub-System Weighted Percentage Average</b>										
3.2.1 Dispatch or Flight Release						29			3	
3.2.2 Flight/Load Manifest/Weight and Balance Control						29			3	
3.2.3 MEL/CDL Procedures						29			3	
<b>Operational Release Sub-System Weighted Percentage Average</b>										
4.2.3 Training of Flight Crewmembers						29			3	
4.2.4 Training of Flight Attendants						29			3	
4.2.5 Training of Dispatcher						29			3	
4.2.6 Training of Station Personnel						29			3	
4.2.7 Training of Check Airman and Instructors						29			3	
4.2.8 Simulators/Training Devices						29			3	
4.2.9 Outsource Crewmember Training						29			3	
4.2.10 Aircrew Designated Examiner						29			TBD	
4.2.11 Training of Flight Followers						29			TBD	
<b>Training Program Sub-System Weighted Percentage Average</b>										
4.3.1 Pilot Operating Limitations/Recent Experience						29			2	
4.3.2 Appropriate Airman/Crewmember Checks and Qualifications						29			2	
4.3.3 Advanced Qualification Program (AQP)						29			TBD	
<b>Crewmember and Dispatch Qualifications Sub-System Weighted Percentage Average</b>										

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OPERATIONS ELEMENTS	ASSESSMENT ACTUAL						PERCENTAGE	ASSESSMENT VALUE	CRITICALITY WEIGHT	WEIGHTED PERCENTAGE
	OS	CD	PH	EC	Total	Total Possible				
5.1.5 Station Facilities						29			2	
5.1.6 Use of Approved Routes, Areas, & Airports						29			1	
5.1.7 Special Navigation Areas of Operation						29			TBD	
5.1.8 ETOPS						29			TBD	
5.1.9 RVSM AUTHORIZATION						29			TBD	
Approved Routes/Areas for Domestic, Flag, Supplemental, and Commercial Sub-System Weighted Percentage Average										
6.1.1 Scheduling/Reporting System						29			2	
6.1.2 Flight Crewmember Flight/Duty/Rest Time						29			2	
6.1.3 Flight Attendant Duty/Rest Time						29			2	
6.1.4 Dispatcher Duty/Rest Time						29			2	
Airman and Crewmember Limitations for Domestic, Flag, Supplemental, and Commercial Sub-System Weighted Percentage Average										
7.1.3 Director of Safety						29			1	
7.1.4 Director of Operations						29			1	
7.1.5 Chief Pilot						29			1	
Key Personnel Sub-System Weighted Percentage Average										
7.2.1 Safety Programs Ground and Flight						29			TBD	
Other Programs Sub-System Weighted Percentage Average										
TOTAL OPERATIONS RESULT										

Principal Operations Inspector: \_\_\_\_\_ Date: \_\_\_\_\_  
Cabin Safety Inspector: \_\_\_\_\_ Date: \_\_\_\_\_  
Notes/Justification: \_\_\_\_\_

